E

TG/ZOYSI(proj.6)
ORIGINAL: English
DATE: 2024-09-19

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

ZOYSIA GRASSES *

UPOV Code(s): ZOYSI

Zoysia Willd.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Japan

to be considered by the

the Enlarged Editorial Committee at its meeting
to be held in Geneva, on January 13 and 15, 2025

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Zoysia Willd., *Brousemichea* Balansa, *Matrella* Pers., *Osterdamia* Neck. ex Kuntze, *Zoydia Pers*., orth. var.	Japanese Lawn Grass, Zoysia	Zoysia	Zoysia	Zoysia

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.]

TABLE OF CONTENTS PAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Zoysia* Willd.

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 plants.

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

25 plants.

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

3.1.1 The minimum duration of tests should normally be two independent growing cycles.

3.1.2 The two independent growing cycles should be in the form of two separate plantings.

3.1.3 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 The optimum stage of development for the assessment of each characteristic is indicated by a number in the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.3.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 15 plants, which should be divided between at least 2 replicates.

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 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.

4.1.4 Number of Plants or Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts of plants taken from each of 10 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

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 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 15 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 further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

(a) Plant: number of ears (characteristic 3)
(b) Culm: length (characteristic 4)
(c) Ear: anthocyanin coloration of spikelets (characteristic 9)
(d) Stolon: anthocyanin coloration (characteristic 17)
(e) Leaf blade: length (characteristic 18)
(f) Leaf blade: width (characteristic 19)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

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

6.2.1 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.

6.2.2 All relevant states of expression are presented in the characteristic.

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1 2	**3 4**	**5 6**	**7**			
	Name of characteristics in English	**Nom du caractère en français**	**Name des Merkmals auf Deutsch**	**Nombre del carácter en español**		
	states of expression	types d'expression	Ausprägungsstufen	tipos de expresión		

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression
QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)
MG, MS, VG, VS – see Chapter 4.1.5

5 (+) See Explanations on the Table of Characteristics in Chapter 8.2

6 (a)-(d) See Explanations on the Table of Characteristics in Chapter 8.1

7 Growth stage key See Explanations on the Table of Characteristics in Chapter 8.3

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1.	**QN MG**	**(+)**	**10**			
	Time of beginning of vegetative growth after overwintering	**Époque du début de la croissance végétative après l'hivernage**	**Zeitpunkt des Beginns des vegetativen Wachstums nach Überwinterung**	**Época de inicio del crecimiento vegetativo tras la hibernación**		
	very early	très précoce	sehr früh	muy temprana		1
	early	précoce	früh	temprana	Ryokko	2
	medium	moyenne	mittel	media	Emerald	3
	late	tardive	spät	tardía	Shiba Chukanbohon Nou 1 Go	4
	very late	très tardive	sehr spät	muy tardía		5
2. **(*)**	**QN MG**	**(b)**	**20**			
	Time of beginning of ear emergence	**Époque du début de l'épiaison**	**Zeitpunkt des Beginns des Ährenschiebens**	**Época de inicio del espigado**		
	very early	très précoce	sehr früh	muy temprana		1
	very early to early	très précoce à précoce	sehr früh bis früh	muy temprana a temprana		2
	early	précoce	früh	temprana		3
	early to medium	précoce à moyenne	früh bis mittel	temprana a media	TM9	4
	medium	moyenne	mittel	media	Meyer	5
	medium to late	moyenne à tardive	mittel bis spät	media a tardía		6
	late	tardive	spät	tardía		7
	late to very late	tardive à très tardive	spät bis sehr spät	tardía a muy tardía		8
	very late	très tardive	sehr spät	muy tardía		9
3. **(*)**	**QN VG**	**(b)**	**29**			
	Plant: number of ears	**Plante : nombre d'épis**	**Pflanze: Anzahl Ähren**	**Planta: número de espigas**		
	none or very few	absent ou très petit	keine oder sehr gering	ausente o muy bajo	Emerald	1
	few	petit	gering	bajo		2
	medium	moyen	mittel	medio	Tsukuba taro	3
	many	élevé	hoch	alto	Meyer	4
	very many	très élevé	sehr hoch	muy alto		5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
4.	**QN MS/VG**	**(b), (c)**	**29**			
	Culm: length	**Tige : longueur**	**Halm: Länge**	**Culmo: longitud**		
	very short	très courte	sehr kurz	muy corta		1
	very short to short	très courte à courte	sehr kurz bis kurz	muy corta a corta		2
	short	courte	kurz	corta	Chiba fair green	3
	short to medium	courte à moyenne	kurz bis mittel	corta a media		4
	medium	moyenne	mittel	media	Meyer	5
	medium to long	moyenne à longue	mittel bis lang	media a larga		6
	long	longue	lang	larga	Asagake	7
	long to very long	longue à très longue	lang bis sehr lang	larga a muy larga		8
	very long	très longue	sehr lang	muy larga		9
5.	**QN VG**	**(b), (c)**	**29**			
	Ear: position relative to foliage	**Épi : position par rapport au feuillage**	**Ähre: Stellung im Verhältnis zum Laub**	**Espiga: posición relativa al follaje**		
	below	en dessous	unterhab	debajo	GZ-006	1
	same level	au même niveau	auf gleicher Höhe	al mismo nivel	G-10	2
	above	au-dessus	überhalb	por encima	Diamond	3
6. **(*)**	**QN MS/VG**	**(b)**	**29**			
	Ear: length	**Épi : longueur**	**Ähre: Länge**	**Espiga: longitud**		
	very short	très courte	sehr kurz	muy corta		1
	very short to short	très courte à courte	sehr kurz bis kurz	muy corta a corta		2
	short	courte	kurz	corta	Mijoka	3
	short to medium	courte à moyenne	kurz bis mittel	corta a media		4
	medium	moyenne	mittel	media	Meyer	5
	medium to long	moyenne à longue	mittel bis lang	media a larga		6
	long	longue	lang	larga	Tsukuba taro	7
	long to very long	longue à très longue	lang bis sehr lang	larga a muy larga		8
	very long	très longue	sehr lang	muy larga		9
7.	**QN MS/VG**	**(b)**	**29**			
	Ear: number of spikelets	**Épi : nombre d'épillets**	**Ähre: Anzahl Ährchen**	**Espiga: número de espiguillas**		
	very few	très petit	sehr gering	muy bajo	Emerald	1
	few	petit	gering	bajo	TM9	2
	medium	moyen	mittel	medio	Meyer	3
	many	élevé	hoch	alto		4
	very many	très élevé	sehr hoch	muy alto		5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
8.	**(*)** **QN** **MS/VG**		**(b)**	**29**			
		Ear: length of spikelets	**Épi : longueur des épillets**	**Ähre: Länge der Ährchen**	**Espiga: longitud de las espiguillas**		
		short	courte	kurz	corta	Mijoka	1
		medium	moyenne	mittel	media	Meyer	2
		long	longue	lang	larga		3
9.	**(*)** **QN** **VG**		**(b)**	**29**			
		Ear: anthocyanin coloration of spikelets	**Épi : pigmentation anthocyanique des épillets**	**Ähre: Anthocyanfärbung der Ährchen**	**Espiga: pigmentación antociánica de las espiguillas**		
		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Ryokko	1
		very weak to weak	très faible à faible	sehr gering bis gering	muy débil a débil		2
		weak	faible	gering	débil	Tsukuba taro	3
		weak to medium	faible à moyenne	gering bis mittel	débil a media		4
		medium	moyenne	mittel	media	Enrumu	5
		medium to strong	moyenne à forte	mittel bis stark	media a fuerte		6
		strong	forte	stark	fuerte	Meyer	7
		strong to very strong	forte à très forte	stark bis sehr stark	fuerte a muy fuerte		8
		very strong	très forte	sehr stark	muy fuerte		9
10.	**QN** **VG**		**(+)** **(d)**				
		Plant: attitude of leaves	**Plante : port des feuilles**	**Pflanze: Haltung der Blätter**	**Planta: porte de las hojas**		
		erect	dressé	aufgerichtet	erecto		1
		semi-erect	demi-dressé	halbaufgerichtet	semierecto	Tsukuba taro	2
		intermediate	intermédiaire	mittel	intermedio	Emerald	3
		semi-prostrate	demi-étalé	halbliegend	semipostrado	TM9	4
		prostrate	étalé	liegend	postrado		5
11.	**(*)** **QN** **MS/VG**		**(+)** **(d)**				
		Plant: height	**Plante : hauteur**	**Pflanze: Höhe**	**Planta: altura**		
		very short	très basse	sehr niedrig	muy baja	TM9	1
		short	basse	niedrig	baja		2
		medium	moyenne	mittel	media	Meyer	3
		tall	haute	hoch	alta		4
		very tall	très haute	sehr hoch	muy alta	Asagake	5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12.	**QN VG**	**(+) (d)**				
	Plant: density of stolons	**Plante : densité des stolons**	**Pflanze: Dichte der Ausläufer**	**Planta: densidad de los estolones**		
	sparse	lâche	locker	laxa	Ijani	1
	medium	moyenne	mittel	media		2
	dense	dense	dicht	densa	TM neo	3
13. (*)	**QN MS/VG**	**(+) (d)**				
	Stolon: internode length	**Stolon : longueur de l'entre-nœud**	**Ausläufer: Länge des Internodiums**	**Estolón: longitud del entrenudo**		
	very short	très courte	sehr kurz	muy corta		1
	very short to short	très courte à courte	sehr kurz bis kurz	muy corta a corta		2
	short	courte	kurz	corta	Mijoka	3
	short to medium	courte à moyenne	kurz bis mittel	corta a media		4
	medium	moyenne	mittel	media	Meyer	5
	medium to long	moyenne à longue	mittel bis lang	media a larga		6
	long	longue	lang	larga	Asagake	7
	long to very long	longue à très longue	lang bis sehr lang	larga a muy larga		8
	very long	très longue	sehr lang	muy larga		9
14.	**QN MS/VG**	**(+) (d)**				
	Stolon: internode width	**Stolon : largeur de l'entre-nœud**	**Ausläufer: Breite des Internodiums**	**Estolón: anchura del entrenudo**		
	very narrow	très étroite	sehr schmal	muy estrecha	Tsukuba hime	1
	narrow	étroite	schmal	estrecha		2
	medium	moyenne	mittel	media	TM9	3
	broad	large	breit	ancha		4
15. (*)	**QN VG**	**(+) (d)**				
	Stolon: anthocyanin coloration of leaf sheath	**Stolon : pigmentation anthocyanique de la gaine de la feuille**	**Ausläufer: Anthocyanfärbung der Blattscheide**	**Estolón: pigmentación antociánica de la vaina de la hoja**		
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Ryokko	1
	weak	faible	gering	débil	Emerald	2
	medium	moyenne	mittel	media		3
	strong	forte	stark	fuerte	Enrumu	4
	very strong	très forte	sehr stark	muy fuerte		5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16.	**QN MS**	**(+) (d)**				
	Stolon: length of leaf sheath	**Stolon : longueur de la gaine de la feuille**	**Ausläufer: Länge der Blattscheide**	**Estolón: longitud de la vaina de la hoja**		
	very short	très courte	sehr kurz	muy corta		1
	short	courte	kurz	corta	Mijoka	2
	medium	moyenne	mittel	media	Meyer	3
	long	longue	lang	larga	Ijani	4
	very long	très longue	sehr lang	muy larga		5
17. **(*)**	**QN VG**	**(+) (d)**				
	Stolon: anthocyanin coloration	**Stolon : pigmentation anthocyanique**	**Ausläufer: Anthocyanfärbung**	**Estolón: pigmentación antociánica**		
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Ryokko	1
	weak	faible	gering	débil		2
	medium	moyenne	mittel	media		3
	strong	forte	stark	fuerte	Enrumu	4
	very strong	très forte	sehr stark	muy fuerte		5
18. **(*)**	**QN MS/VG**	**(+) (d)**				
	Leaf blade: length	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
	very short	très courte	sehr kurz	muy corta	TM neo	1
	very short to short	très courte à courte	sehr kurz bis kurz	muy corta a corta		2
	short	courte	kurz	corta	Emerald	3
	short to medium	courte à moyenne	kurz bis mittel	corta a media		4
	medium	moyenne	mittel	media	Tsukuba green	5
	medium to long	moyenne à longue	mittel bis lang	media a larga		6
	long	longue	lang	larga	Asagake	7
	long to very long	longue à très longue	lang bis sehr lang	larga a muy larga		8
	very long	très longue	sehr lang	muy larga	Tsukuba taro	9
19. **(*)**	**QN MS/VG**	**(d)**				
	Leaf blade: width	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
	very narrow	très étroite	sehr schmal	muy estrecha	Mijoka	1
	narrow	étroite	schmal	estrecha		2
	medium	moyenne	mittel	media	Meyer	3
	broad	large	breit	ancha		4

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
20.	**QN VG**	**(d)**				
	Leaf blade: intensity of green color	**Limbe : intensité de la couleur verte**	**Blattspreite: Intensität der Grünfärbung**	**Limbo: intensidad del color verde**		
	very light	très claire	sehr hell	muy clara		1
	very light to light	très claire à claire	sehr hell bis hell	muy clara a clara		2
	light	claire	hell	clara	Ayamidori	3
	light to medium	claire à moyenne	hell bis mittel	clara a media		4
	medium	moyenne	mittel	media	Emerald	5
	medium to dark	moyenne à foncée	mittel bis dunkel	media a oscura		6
	dark	foncée	dunkel	oscura	Chiba fair green	7
	dark to very dark	foncée à très foncée	dunkel bis sehr dunkel	oscura a muy oscura		8
	very dark	très foncée	sehr dunkel	muy oscura		9
21.	**QN VG**	**(+)** **(d)**				
	Leaf blade: density of hairs on upper side	**Limbe : densité des poils sur la face supérieure**	**Blattspreite: Dichte der Haare auf der Oberseite**	**Limbo: densidad de los pelos en el haz**		
	absent or very sparse	absente ou très lâche	fehlend oder sehr locker	ausente o muy laxa	Emerald	1
	sparse	lâche	locker	laxa	Meyer	2
	medium	moyenne	mittel	media		3
	dense	dense	dicht	densa		4
	very dense	très dense	sehr dicht	muy densa		5
22. **(*)**	**QN MG**	**(+)**	**40**			
	Time of leaf senescence	**Époque de sénescence des feuilles**	**Zeitpunkt der Blattalterung**	**Época de senescencia de las hojas**		
	very early	très précoce	sehr früh	muy temprana		1
	very early to early	très précoce à précoce	sehr früh bis früh	muy temprana a temprana		2
	early	précoce	früh	temprana	TM9	3
	early to medium	précoce à moyenne	früh bis mittel	temprana a media		4
	medium	moyenne	mittel	media	Emerald	5
	medium to late	moyenne à tardive	mittel bis spät	media a tardía		6
	late	tardive	spät	tardía	Mijoka	7
	late to very late	tardive à très tardive	spät bis sehr spät	tardía a muy tardía		8
	very late	très tardive	sehr spät	muy tardía		9

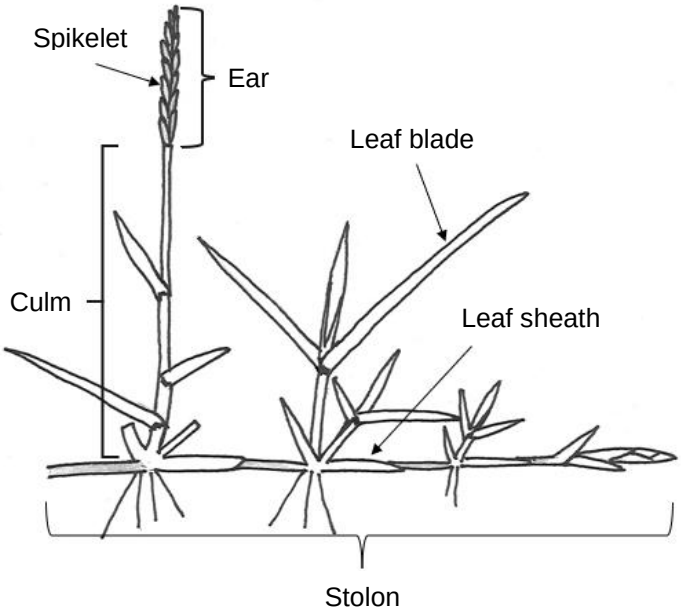
	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23.	**PQ VG**		**45**			
	Leaf: color before dormancy	**Feuille : couleur avant la dormance**	**Blätter: Farbe vor der Winterruhe**	**Hoja: color antes de la latencia**		
	yellow	jaune	gelb	amarillo	Ryokko	1
	purple	pourpre	purpurn	púrpura	Tsukuba taro	2
	brown	brun	braun	marrón	TM9	3

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a)



(b) Observations should be made at the time of first ear emergence after overwintering. Many varieties emerge ears in spring, but varieties that produce ears only in the autumn should be observed in the autumn.

(c) Observations should be made on culms from the middle third of the plant.

(d) Observations should be made 4 months after the time of beginning of vegetative growth after overwintering.

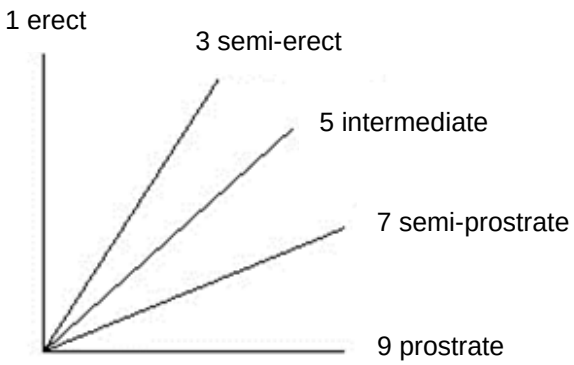
8.2 Explanations for individual characteristics

Ad. 1: Time of beginning of vegetative growth after overwintering

The time of vegetative growth after overwintering should be observed when new leaves can be seen on the stems of about 50% of the plants after overwintering.

Ad. 10: Plant: attitude of leaves

Observations should be made visually from the attitude of the leaves and the development of lateral stolons. The angle formed by the outer leaves with an imaginary middle axis should be used.



Ad. 11: Plant: height

Ad. 12: Plant: density of stolons

1
sparse

3
dense

Ad. 13: Stolon: internode length

Observations should be made between the 4th and the 5th node from the tip of the stolon.

Ad. 14: Stolon: internode width

Observations should be made between the 4th and the 5th node from the tip of the stolon excluding leaf sheath.

Ad. 15: Stolon: anthocyanin coloration of leaf sheath

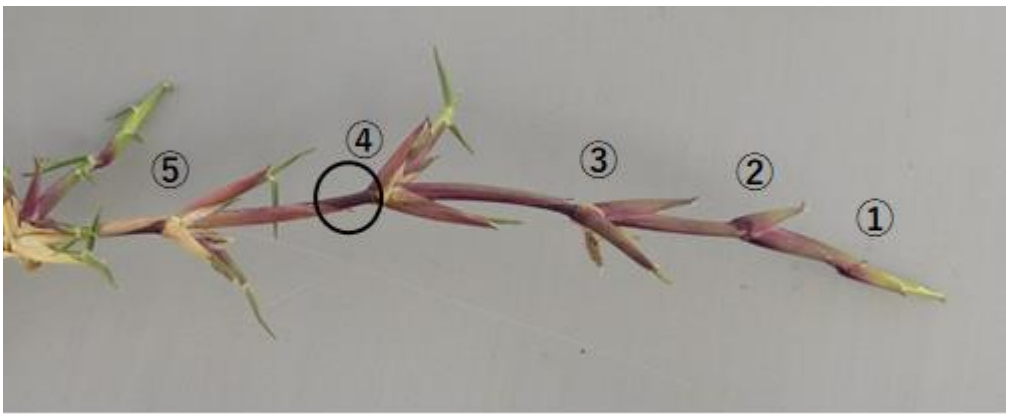
Observations should be made between the 1st and the 5th node from the tip of the stolon.

Ad. 16: Stolon: length of leaf sheath

Observations should be made between the 4th and the 5th node from the tip of the stolon.

Ad. 17: Stolon: anthocyanin coloration

Observations should be made on stolons which are not covered by a leaf sheath, between the 4th and the 5th node from the tip of the stolon.



Ad. 18: Leaf blade: length

Observations should be made on leaves in the middle between the planted position and the tip of the stolon.

Ad. 21: Leaf blade: density of hairs on upper side

Observations should be made on black background using a magnifying glass.

Ad. 22: Time of leaf senescence

Time of leaf senescence is reached when 50% of leaves have changed color.

8.3 Growth stages for Zoysia

10: Beginning of vegetative growth
20: Beginning of ear emergence
29: Ear emergence completed
40: Beginning of leaf color change
45: Leaf color change completed

9. Literature

Japanese Society of Turfgrass Science., 2001: Handbook: management of turf and turfgrass research. Soft science Co., Tokyo, JP

Asano, T., Aoki, K., 1998: Turfgrasses and the cultivars., Soft science Co., Tokyo, JP

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	*Zoysia* Willd.
1.2	Common name	Japanese Lawn Grass
1.3	Species (please indicate):	

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:

[#]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 variety)

(……..……..…) x (……..……..…)

female parent male parent

(b) partially known cross [ ]

(please state known parent variety(ies))

(……..……..…) x (……..……..…)

female parent male parent

(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)

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:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) Division [ ]
(b) Rhizomes [ ]
(c) Other (state method) [ ]

4.2.2 Other [ ]
(Please provide details)

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

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

	Characteristics	Example Varieties	Note
5.1 (2)	**Time of beginning of ear emergence**		
	very early		1 [ ]
	very early to early		2 [ ]
	early		3 [ ]
	early to medium	TM9	4 [ ]
	medium	Meyer	5 [ ]
	medium to late		6 [ ]
	late		7 [ ]
	late to very late		8 [ ]
	very late		9 [ ]
5.2 (3)	**Plant: number of ears**		
	none or very few	Emerald	1 [ ]
	few		2 [ ]
	medium	Tsukuba taro	3 [ ]
	many	Meyer	4 [ ]
	very many		5 [ ]
5.3 (4)	**Culm: length**		
	very short		1 [ ]
	very short to short		2 [ ]
	short	Chiba fair green	3 [ ]
	short to medium		4 [ ]
	medium	Meyer	5 [ ]
	medium to long		6 [ ]
	long	Asagake	7 [ ]
	long to very long		8 [ ]
	very long		9 [ ]

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

	Characteristics	Example Varieties	Note
5.4 (9)	**Ear: anthocyanin coloration of spikelets**		
	absent or very weak	Ryokko	1 [ ]
	very weak to weak		2 [ ]
	weak	Tsukuba taro	3 [ ]
	weak to medium		4 [ ]
	medium	Enrumu	5 [ ]
	medium to strong		6 [ ]
	strong	Meyer	7 [ ]
	strong to very strong		8 [ ]
	very strong		9 [ ]
5.5 (17)	**Stolon: anthocyanin coloration**		
	absent or very weak	Ryokko	1 [ ]
	weak		2 [ ]
	medium		3 [ ]
	strong	Enrumu	4 [ ]
	very strong		5 [ ]
5.6 (18)	**Leaf blade: length**		
	very short	TM neo	1 [ ]
	very short to short		2 [ ]
	short	Emerald	3 [ ]
	short to medium		4 [ ]
	medium	Tsukuba green	5 [ ]
	medium to long		6 [ ]
	long	Asagake	7 [ ]
	long to very long		8 [ ]
	very long	Tsukuba taro	9 [ ]
5.7 (19)	**Leaf blade: width**		
	very narrow	Mijoka	1 [ ]
	narrow		2 [ ]
	medium	Meyer	3 [ ]
	broad		4 [ ]
	very broad	Asagake	5 [ ]

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

	Characteristics	Example Varieties	Note
5.8 (22)	**Time of leaf senescence**		
	very early		1 [ ]
	very early to early		2 [ ]
	early	TM9	3 [ ]
	early to medium		4 [ ]
	medium	Emerald	5 [ ]
	medium to late		6 [ ]
	late	Mijoka	7 [ ]
	late to very late		8 [ ]
	very late		9 [ ]

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

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
Example	*Stolon: anthocyanin coloration*	*medium*	*strong*

Comments:

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

[#]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

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:

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. 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]