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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 experts from Japan
 to be considered by the
 Technical Working Party for Agricultural Crops
 at its fifty-second session, to be held virtually
 from 2023-05-22 to 2023-05-26*

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Zoysia</i> Willd.	Japanese Lawn Grass	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.]

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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:

vegetatively propagated varieties: 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*

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.

3.4 *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 3 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) Stolon: anthocyanin coloration (characteristic 9)
 - (b) Leaf blade: length (characteristic 12)
 - (c) Flower: tendency of flowering in spring (characteristic 15)
 - (d) Culm: length (characteristic 17)
 - (e) Plant: number of inflorescences (in spring) (characteristic 19)
 - (f) Inflorescence: anthocyanin coloration of spikelets (characteristic 22)
- 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	VG	(+)	(a)				
	Plant: growth habit							
		erect						1
		semi-erect					Tsukuba taro	2
		intermediate					Emerald	3
		semi-prostrate					TM9	4
		prostrate						5
2. (*)	QN	MS/VG	(+)	(a), (b)				
	Plant: height							
		very short						1
		very short to short						2
		short					TM9	3
		short to medium						4
		medium					Meyer	5
		medium to tall						6
		tall					Asagake	7
		tall to very tall						8
		very tall						9
3.	QN	VG	(+)	(a)				
	Stolon: density of stolon							
		sparse					Ijani	1
		medium						2
		dense					TM neo	3
4. (*)	QN	MS/VG	(+)	(a)				
	Stolon: length							
		very short						1
		very short to short						2
		short					Mijoka	3
		short to medium						4
		medium					Emerald	5
		medium to long						6
		long					Asagake	7
		long to very long						8
		very long						9

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. (*)	QN	VG	(+)	(a)				
	Stolon: anthocyanin coloration of leaf sheath							
	absent or very weak						Ryokko	1
	very weak to weak							2
	weak						Emerald	3
	weak to medium							4
	medium							5
	medium to strong							6
	strong						Enrumu	7
	strong to very strong							8
	very strong							9
6.	QN	MS	(+)	(a)				
	Stolon: length of leaf sheath							
	very short							1
	very short to short							2
	short						Mijoka	3
	short to medium							4
	medium						Meyer	5
	medium to long							6
	long						Ijani	7
	long to very long							8
	very long							9
7. (*)	QN	MS	(+)	(a)				
	Stolon: internode length							
	very short							1
	very short to short							2
	short						Mijoka	3
	short to medium							4
	medium						Meyer	5
	medium to long							6
	long						Asagake	7
	long to very long							8
	very long							9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
8.	QN	MS	(+)	(a)		
	Stolon: internode width					
	narrow				Tsukuba hime	1
	narrow to medium					2
	medium				TM9	3
	medium to broad					4
	broad				Ryokko	5
9. (*)	QN	VG	(+)	(a)		
	Stolon: anthocyanin coloration					
	absent or very weak				Ryokko	1
	very weak to weak					2
	weak					3
	weak to medium					4
	medium				Chiba G79	5
	medium to strong					6
	strong				Enrumu	7
	strong to very strong					8
	very strong					9
10.	QN	VG		(a)		
	Only varieties with stolon anthocyanin coloration absent: Stolon: intensity of green color					
	light					1
	medium				Ryokko	2
	dark					3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11.	QN	VG	(a)			
	Leaf blade: intensity of green color					
	very light					1
	very light to light					2
	light				Ayamidori	3
	light to medium					4
	medium				Emerald	5
	medium to dark					6
	dark				Chiba fair green	7
	dark to very dark					8
	very dark					9
12. (*)	QN	MS/VG	(+)	(a), (c)		
	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
13. (*)	QN	MS/VG	(a), (c)			
	Leaf blade: width					
	narrow				Mijoka	1
	narrow to medium					2
	medium				Meyer	3
	medium to broad					4
	broad				Asagake	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14.	QN	VG	(a)			
	Leaf blade: density of hairs on upper side					
	absent or very sparse				Emerald	1
	sparse				Meyer	2
	medium					3
	dense					4
	very dense					5
15. (*)	QN	MG/VG	(+)	(d)	60-68	
	Flower: tendency of flowering in spring					
	low				Chiba G79	1
	medium				Emerald	2
	high				Meyer	3
16. (*)	QN	MG/VG	(d)		60-68	
	Flower: tendency of flowering in autumn					
	low				Chiba G79	1
	medium					2
	high				Meyer	3
17.	QN	MS/VG	(d)		68	
	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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18. (*)	QN	MS/VG	(d)	68		
	Inflorescence: length					
	very short					1
	very short to short					2
	short				Mijoka	3
	short to medium					4
	medium				Meyer	5
	medium to long					6
	long				Tsukuba taro	7
	long to very long					8
	very long					9
19. (*)	QN	VG	(d)	68		
	Plant: number of inflorescences (in spring)					
	none or very few				Emerald	1
	few					2
	medium				Tsukuba taro	3
	many				Meyer	4
	very many					5
20.	QN	VG	(d)	68		
	Plant: number of inflorescences (in autumn)					
	none or very few				Emerald	1
	few					2
	medium				Tsukuba hime	3
	many				Meyer	4
	very many					5
21.	QN	VG	(+)	(d)	68	
	Inflorescence: position relative to foliage					
	below				GZ-006	1
	same level				G-10	2
	above				Diamond	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. (*)	QN	VG	(d)	68		
	Inflorescence: anthocyanin coloration of spikelets					
	absent or very weak				Ryokko	1
	very weak to weak					2
	weak				Tsukuba taro	3
	weak to medium					4
	medium				TM neo	5
	medium to strong					6
	strong				Meyer	7
	strong to very strong					8
	very strong					9
23. (*)	QN	MS/VG	(d)	68		
	Inflorescence: length of spikelets					
	short				Mijoka	1
	medium				Meyer	2
	long					3
24.	QN	MS/VG	(d)	68		
	Inflorescence: number of spikelets					
	few				Emerald	1
	few to medium				TM9	2
	medium				Meyer	3
	medium to many					4
	many					5

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25.	QN	MG	(+)				
	Time of vegetative growth after overwintering						
	very early						1
	very early to early						2
	early					Ryokko	3
	early to medium						4
	medium					Emerald	5
	medium to late						6
	late					Shiba Chukanbohon Nou 1 Go	7
	late to very late						8
	very late						9
26. (*)	QN	MG	(+)	60			
	Time of flowering (in spring)						
	very early						1
	very early to early						2
	early						3
	early to medium					TM9	4
	medium					Meyer	5
	medium to late						6
	late					Tsukuba taro	7
	late to very late						8
	very late						9
27. (*)	QN	MG	(+)				
	Time of leaf senescence (in autumn)						
	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

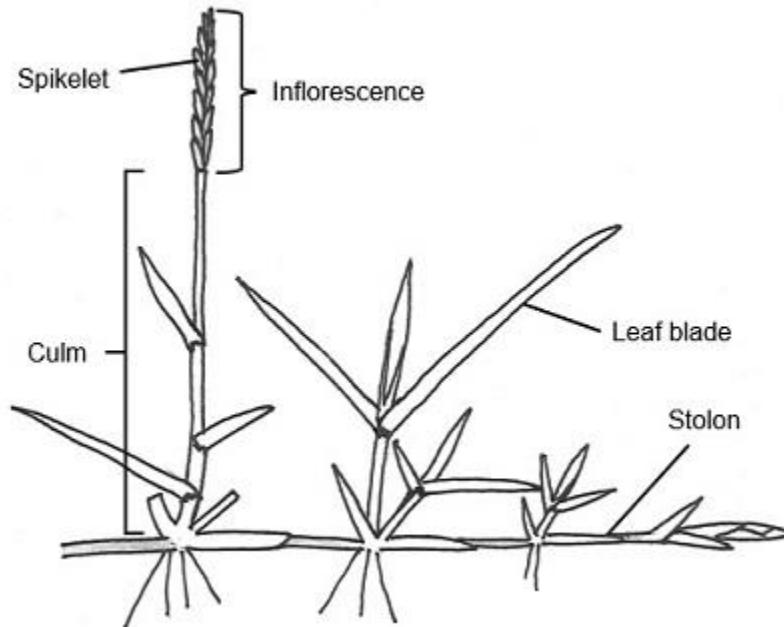
	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.	QN	VG				
	Colored leaves: intensity of anthocyanin coloration (in autumn)					
	absent or very weak					1
	weak				Emerald	2
	medium				Meyer	3
	strong				Chiba fair green	4
	very strong				TM9, Tsukuba taro	5

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) The plant, stolon and leaf should be observed after 4 months after overwintering in the second summer. If no flowering occurs, observation should be made at the same time as the example variety (e.g. Meyer).
- (b)

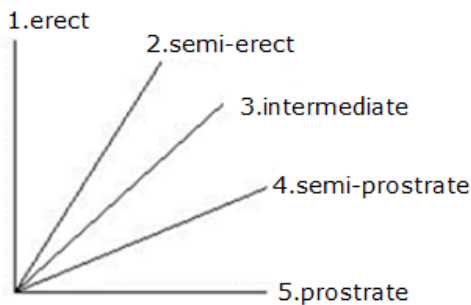


- (c) Observations should be made on culms from the middle third of the plant.
- (d) Observations should be made at the time of flowering in the second year.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: growth habit

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. 2: Plant: height



Ad. 3: Stolon: density of stolon

Observe the density of the stolon extending to the outside of the leaves.



1
sparse



3
dense

Ad. 4: Stolon: length

Measure from the center of planted position to the tip of the longest stolon.



Ad. 5: Stolon: anthocyanin coloration of leaf sheath

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



Ad. 6: Stolon: length of leaf sheath

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



Ad. 7: Stolon: internode length

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

Ad. 8: Stolon: internode width

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

Ad. 9: Stolon: anthocyanin coloration

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



Ad. 12: Leaf blade: length

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

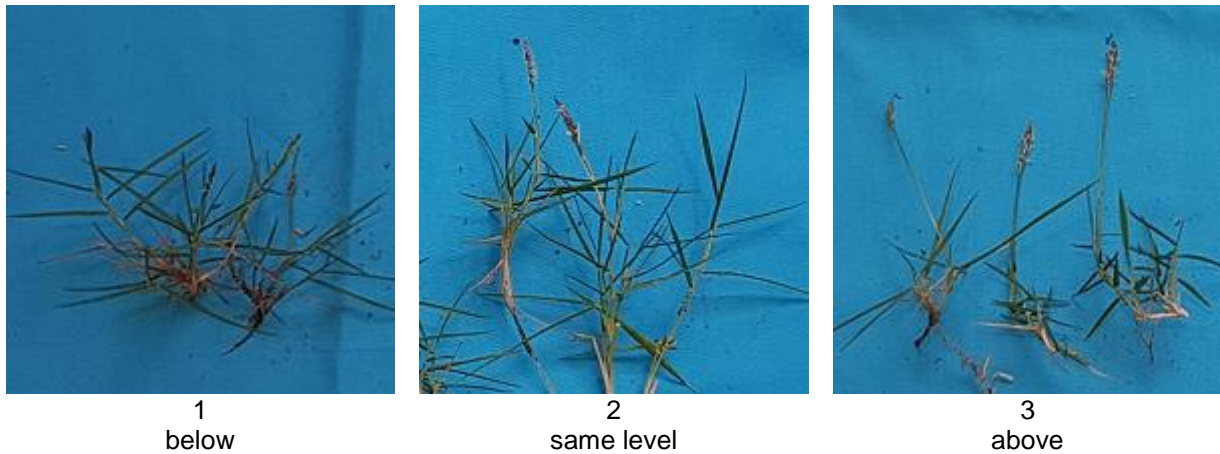


Ad. 15: Flower: tendency of flowering in spring

Tendency of flowering assessed by taking the percentage of plants that have bloomed in the second year of growth after planting. (Observe all plants)

1. low: 0-30%
2. medium: 31-60%
3. high: 61-100%

Ad. 21: Inflorescence: position relative to foliage



Ad. 25: Time of vegetative growth after overwintering

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



The beginning of vegetative growth

Ad. 26: Time of flowering (in spring)

Time of flowering in spring should be observed in the 2nd year after planting.

Ad. 27: Time of leaf senescence (in autumn)

Time of coloring leaf senescence should be observed when 50% of the leaves have changed color in autumn or early winter.

- 8.3 The culm and inflorescence characteristics are observed only for varieties with a tendency of flowering with a note of medium and high.

Ad. 17: Culm: length
Ad. 18: Inflorescence: length
Ad. 19: Plant: number of inflorescences (in spring)
Ad. 20: Plant: number of inflorescences (in autumn)
Ad. 21: Inflorescence: position relative to foliage
Ad. 22: Inflorescence: anthocyanin coloration of spikelets
Ad. 23: Inflorescence: length of spikelets
Ad. 24: Inflorescence: number of spikelets
Ad. 26: Time of flowering (in spring)

Growth stages for grasses

All characteristics should be recorded at the appropriate time for the plant concerned. Growth stages of grasses are indicated by decimal codes which are derived from the decimal code for the growth stages of cereals (Zadoks, et al., 1974). This decimal code is in close conformity with the BBCH-code (Meier, 1997).

Seedling growth (seedling: one shoot)

DC 10 First leaf through coleoptile
DC 15 Five leaves unfolded
DC 19 Nine or more leaves unfolded

Tillering

DC 20 Main shoot only (beginning of tillering)
DC 23 Main shoot and 3 tillers
DC 25 Main shoot and 5 tillers
DC 29 Main shoot and 9 or more tillers

Stem elongation

DC 30 Pseudo-stem erection (formed by sheaths of leaves).
DC 31 First node detectable (early stem extension across all stems)
DC 35 Fifth node detectable (50% extension across all stems)
DC 39 Flag leaf ligula/collar just visible (pre-boot stage)

Booting

DC 41 Flag leaf sheath extending (little enlargement of the inflorescence, early boot-stage)
DC 45 Boots swollen (late-boot stage)
DC 47 First leaf sheath opening
DC 49 First awns visible (in awned forms only)

Inflorescence emergence (mostly non-synchronous)

DC 50 First spikelet of inflorescence just visible
DC 52 25% of the inflorescence emerged (across all stems)
DC 54 50% of the inflorescence emerged (across all stems)
DC 56 75% of the inflorescence emerged (across all stems)
DC 58 Emergence of inflorescence completed

Anthesis (mostly non-synchronous)

DC 60 Beginning of anthesis
DC 64 Anthesis half-way
DC 68 Anthesis complete

9. Literature

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

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

Meier, U., 1997: Growth stages of mono- and dicotyledonous plants. BBCH-Monograph Blackwell Science. Berlin, Vienna, a.o., 622 pp.

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	<input type="text" value="Zoysia Willd."/>
1.2	Common name	<input type="text" value="Japanese Lawn Grass"/>
2. Applicant		
	Name	<input type="text"/>
	Address	<input type="text"/>
	Telephone No.	<input type="text"/>
	Fax No.	<input type="text"/>
	E-mail address	<input type="text"/>
	Breeder (if different from applicant)	<input type="text"/>
3. Proposed denomination and breeder's reference		
	Proposed denomination (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>

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 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:
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4.2	Method of propagating the variety	
4.2.1	Vegetative propagation	
(a)	Division	[]
(b)	Rhizomes	[]
(c)	Other (state method)	[]
	<input type="text"/>	
4.2.2	Other (Please provide details)	[]
	<input type="text"/>	

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 Stolon: anthocyanin coloration (9)		
absent or very weak	Ryokko	1 []
very weak to weak		2 []
weak		3 []
weak to medium		4 []
medium	Chiba G79	5 []
medium to strong		6 []
strong	Enrumu	7 []
strong to very strong		8 []
very strong		9 []
5.2 Leaf blade: length (12)		
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 []
5.3 Flower: tendency of flowering in spring (15)		
low	Chiba G79	1 []
medium	Emerald	2 []
high	Meyer	3 []

Characteristics	Example Varieties	Note
5.4 Inflorescence: anthocyanin coloration of spikelets (22)		
absent or very weak	Ryokko	1 []
very weak to weak		2 []
weak	Tsukuba taro	3 []
weak to medium		4 []
medium	TM neo	5 []
medium to strong		6 []
strong	Meyer	7 []
strong to very strong		8 []
very strong		9 []
not applicable		10 []
5.5 Time of flowering (in spring) (26)		
very early		1 []
very early to early		2 []
early		3 []
early to medium	TM9	4 []
medium	Meyer	5 []
medium to late		6 []
late	Tsukuba taro	7 []
late to very late		8 []
very late		9 []
not applicable		10 []
5.6 Time of leaf senescence (in autumn) (27)		
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:
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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>Stolon: anthocyanin coloration</i>	<i>medium</i>	<i>strong</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

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