E

UPOV

TG/UROCH(proj.6)
ORIGINAL: English
DATE: 2012-04-19

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

UROCHLOA
UPOV Codes: UROCH_BRI; UROCH_DEC; UROCH_DIC; UROCH_HUM; UROCH_RUZ
Urochloa brizantha (Hochst. ex A. Rich.) Stapf.,
Urochloa decumbens Stapf. R. Webster,
Urochloa dictyoneura (Fig. & De Not.) Veldkamp P.,
Urochloa humidicola (Rendle) Morrone & Zuloaga.,
Urochloa ruziziensis R. Germ. & Evrard.
and their hybrids

[*]

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Brazil

to be considered by the

Technical Working Party for Agricultural Crops
at its forty-first session, to be held in Angers, France, from May 21 to 25, 2012

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Urochloa brizantha (Hochst. ex A. Rich.) R. D. Webster, *Brachiaria brizantha* (Hochst. ex A. Rich.) Stapf)	Bread Grass, Palisade grass, Palisade grass, Palisade signal grass, Signal Grass	Signal	Palisadengrass	Pasto alambre, Pasto señal, Zacate señal, Zacate signal
Urochloa decumbens (Stapf) R. D. Webster, *Brachiaria decumbens* Stapf	Basilisk signal grass, Signal grass, Spreading liverseed grass, Surinam grass		Surinamgrass	Zacate Surinam, Pasto chontalpo, Pasto de la palizada, Pasto de las orillas, Pasto peludo, Pasto prodigio, Zacate prodigio
Urochloa dictyoneura (Fig. & De Not.) Veldkamp P., *Brachiaria dictyoneura* (Fig. & De Not.) Veldkamp P.	Koronivia grass			
Urochloa humidicola (Rendle) Morrone & Zuloaga, *Brachiaria humidicola* (Rendle) Schweick.	Creeping signal grass, Koronivia grass	Koronivia		Braquiaria dulce, Kikuyu de la Amazonía, Pasto humidícola, Pasto humidícola dulce
Urochloa ruziziensis (R. Germ. & C. M. Evrard) Morrone & Zuloaga, *Brachiaria ruziziensis* R. Germ. & C. M. Evrard	Congo grass, Congo signal grass, Ruzi grass			Congo señal, Gambutera, Kenia, Pasto Congo, Pasto ruzi

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 CONTENTSPAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Urochloa brizantha* (Hochst. ex A. Rich.) Stapf., *Urochloa decumbens* Stapf., *Urochloa dictyoneura* (Fig. & De Not.) Veldkamp P., *Urochloa humidicola* (Rendle) Morrone & Zuloaga and *Urochloa ruziziensis* R. Germ. & Evrard and their hybrids.

For examination purposes the five species are divided into the following two groups:

Group 1: *Urochloa brizantha* (Hochst. ex A. Rich.) Stapf., *Urochloa decumbens* Stapf., and *Urochloa ruziziensis* R. Germ. & Evrard and their hybrids.

Group 2: *Urochloa dictyoneura* (Fig. & De Not.) Veldkamp P. and *Urochloa humidicola* (Rendle) Morrone & Zuloaga and their hybrids.

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 seed or plants.

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

500 g of seed.

In the case of seed, the seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

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 two independent growing cycles.

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 60 spaced plants which should be divided into three 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 / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 30 plants or parts taken from each of 30 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 second column of 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 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 60 plants, 2 off-types are 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 seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

4.3.3 Where appropriate, or in cases of doubt, the stability of a hybrid variety may, in addition to an examination of the hybrid variety itself, also be assessed by examination of the uniformity and stability of its parent lines.

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) Leaf blade: hairiness (characteristic 15)
(b) Inflorescence: shape of rachis in transverse section (characteristic 20)
(c) Inflorescence: stigma color at anthesis (characteristic 21)

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 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

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

(*)	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
MG, MS, VG, VS		– see Chapter 4.1.5

(a)-(b) See Explanations on the Table of Characteristics in Chapter 8.1
(+) See Explanations on the Table of Characteristics in Chapter 8.2

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)** **(+)**	**VG**	**Plant: growth habit**				Example varieties tests are in progress. Information to be added.	
QN	**(a)**	erect					3
		semi erect					5
		ascending					7
		prostrate					9
2.	**MS**	**Plant: height**					
(+)							
QN	**(a)**	short					3
		medium				BRS Piatã, MIXE LN 45, Mulato II	5
		tall					7
3.	**MG**	**Rhizome: presence**				**Group 2 only**	
QL		absent					1
		present					9
4.	**VS**	**Rhizome: number**					
(+)							
QN	**(a)**	absent or very weak					1
		few					3
		medium					5
		many					7
		very many					9
5.	**VS**	**Rhizome: shape**					
(+)							
PQ	**(a)**	pachimorph					1
		intermediate				BRS Piatã	2
		leptomorph				MIXE LN 45, Mulato II	3
6. **(*)** **(+)**	**VS**	**Stolon: length of internode**					
QN	**(a)**	absent or very short					1
		short					3
		medium					5
		long					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. **(+)**	**MS**	**Culm: length of internode**				**Group 1 only**	
QN	**(a)**	short					3
	(b)	medium				MIXE LN 45	5
		long					7
8.	**MS**	**Culm: diameter**				**Group 1 only**	
QN	**(a)**	small					3
	(b)	medium				MIXE LN 45, Mulato II	5
		large					7
9. **(*)** **(+)**	**VG**	**Leaf: curvature of leaf blade**				Example varieties tests are in progress. Information to be added.	
QN	**(a)**	weak					1
	(b)	moderate					2
		strong					3
10.	**VG**	**Leaf sheath: distribution of hairs**					
QN	**(a)**	absent or sparse				BRS Piatã	1
	(b)	medium					2
		dense				Mulato II	3
11.	**VG**	**Only varieties with hairs on leaf sheath: Leaf: distribution of hairs on sheath**					
PQ	**(a)**	at base					1
	(b)	at apex				MIXE LN 45	2
		on margins					3
		throughout				BRS Piatã, Mulato II	4
12. **(+)**	**VG**	**Leaf: shape of blade**					
PQ	**(a)**	linear				BRS Piatã	1
	(b)	narrow lanceolate				MIXE LN 45, Mulato II	2
		lanceolate					3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13.	**MS**	**Leaf blade: length**				Example varieties tests are in progress. Information to be added.	
QN	**(a)**	short					3
	(b)	medium				Mulato	5
		long				Toledo	7
14.	**MS**	**Leaf blade: width**					
QN	**(a)**	narrow				BRS Piatã	3
	(b)	medium				MIXE LN 45	5
		broad				Mulato, Mulato II	7
15.	**VS**	**Leaf blade: hairiness**					
PQ	**(a)**	absent				MIXE LN 45	1
	(b)	present				Mulato II	9
16.	**VG**	**Leaf blade: distribution of hairs**					
PQ		**on upper side only**					1
		on lower side only					2
		on margins only					3
		hair on both sides				*B. ruziziensis*, Basilsk and Mulato	4
17. **(+)**	**MS**	**Inflorescence: length of peduncle**					
QN		short					3
		medium				Mulato II	5
		long				BRS Piatã, MIXE LN 45	7
18. **(+)**	**MS**	**Inflorescence: length of main rachis**					
QN		short					3
		medium				Mulato II	5
		long				BRS Piatã, MIXE LN 45	7
19. **(+)**	**MS**	**Inflorescence: length of basal racemes**					
QN		short					3
		medium				MIXE LN 45, Mulato II	5
		long				BRS Piatã	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
20. **(+)**	**VG**	**Inflorescence: shape of rachis in transverse section**					
PQ		triangular				MIXE LN 45	1
		winged				Mulato II	2
		crescent				BRS Piatã	3
21. **(*)** **(+)**	**VG**	**Inflorescence: stigma color at anthesis**					
PQ		white				Mulato II	1
		light purple					2
		medium purple				BRS Piatã, MIXE LN 45	3
		dark purple				Marandú, Toledo	4
		black				Mulato	5
22.	**VG**	**Spikelet: density of hairiness**				**Group 1 only**	
QN		absent or very sparse				BRS Piatã, MIXE LN 45	1
		sparse					3
		medium				Mulato II	5
		dense					7
23.	**VG**	**Glume: anthocyanin coloration (at Flowering)**					
QN		absent or very weak				BRS Piatã	1
		weak				Basilisk	3
		medium				Marandu	5
		strong				LLanero	7
24. **(+)**	**VG**	**Seed: surface texture**					
QL		smooth					1
		rough					2
25. **(*)** **(+)**	**MG**	**Time of beginning of flowering**					
QN		early				BRS Piatã	3
		medium					5
		late				MIXE LN 45, Mulato II	7

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a) Unless otherwise stated, all observations should be made at full flowering stage, in the first growing cycle.

(b) Observations on culms and fully developed leaves should be made on the second leave from the top.

a. When assessing characteristics of inflorescences, consider:

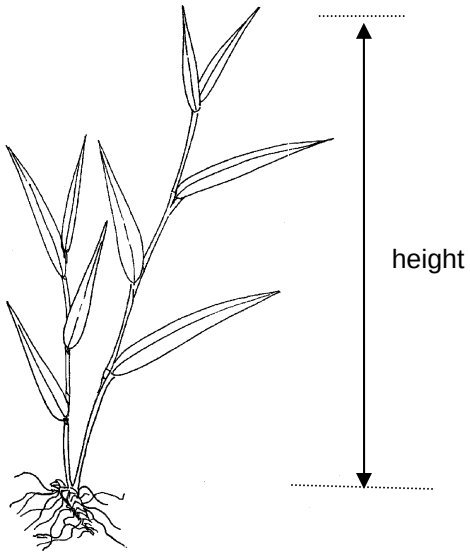
1. *Flower stem*: distance between the flag leaf node and the insertion of the last raceme;
2. *Flower stem axis*: distance between the first and the last raceme insertions; and
3. *Rachis*: axis of the spikelet insertion.

Definitions: Caespitosae means “growing in tufts” or “densely-clumped”, refers to the dense tufts of stems. They also have long internodes with reduced leaves. Plants with stolons or stolon-like rhizomes are called stoloniferous. A stolon is a plant propagation strategy and the complex of individuals formed by a mother plant and all its clones produced from stolons form a single genetic individual. Stolons lack the same type of reduced leaves that rhizomes have at the nodes; stolons have scale-like leaves and new roots are formed at the nodes only while rhizomes typically have paper like leaves at the nodes. Typically, stolons have very long internodes that form new plants at the ends. In contrast, rhizomes most often have short internodes with leaf-scars and thin paper-like leaves and root along the underside of the stem. Root formation does not correspond strictly to the nodes but roots can generate from areas around the scar-like nodes as well.

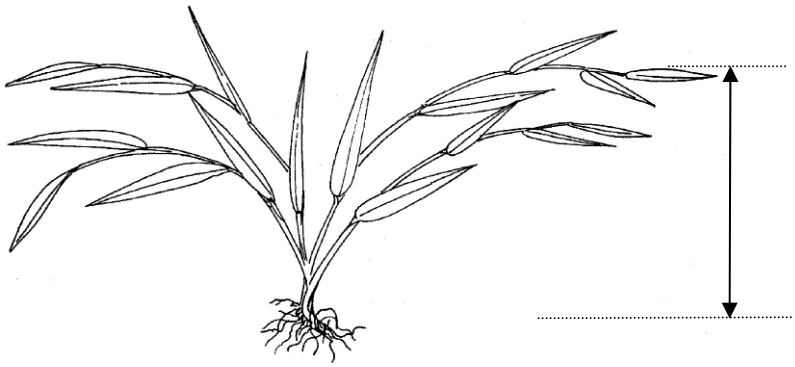
8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit
Ad. 2: Plant: height

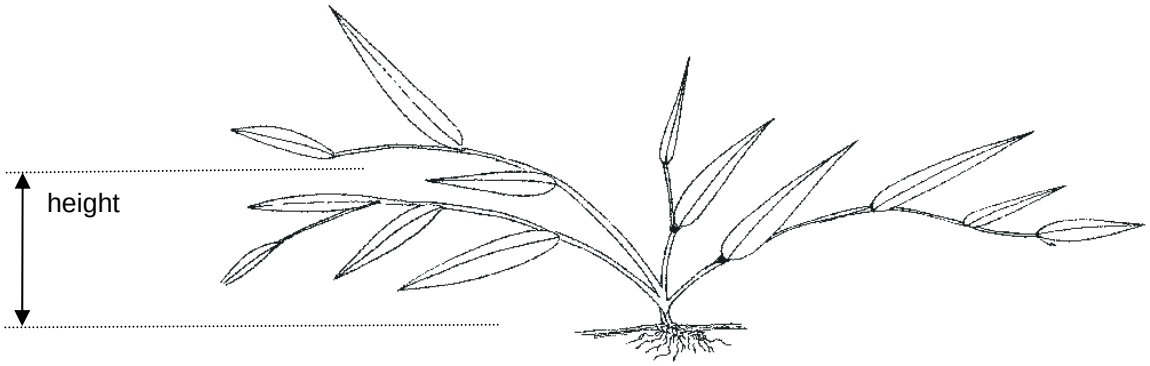
The height of the plant should be measured in the center of the plant, at the beginning of flowering, from the third fully developed leaf to the level ground, excluding inflorescences. To be observed in first and second year.



erect
3



semi erect
5



prostrate
7

Ad. 4: Rhizome: number

To evaluate in the second year.

Ad. 5: Rhizome: shape

1
pachimorph

2
intermediate

3
leptomorph

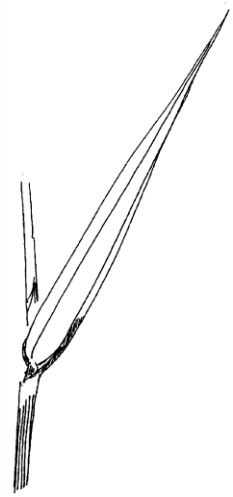
Ad. 6: Stolon: length of internode

The development of stolons should be assessed 3 months after sowing/planting.

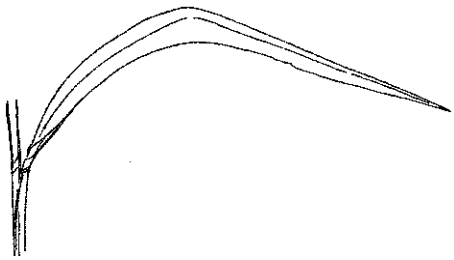
Ad. 7: Culm: length of internode

The assessment of the length of internode should be made medium third of plant; it does not refer to floral culm.

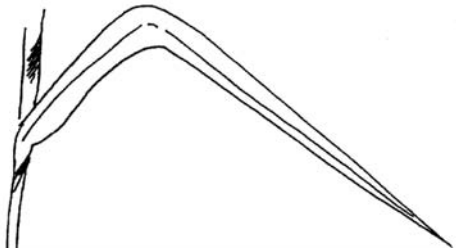
Ad. 9: Leaf: curvature of leaf blade



1
weak



2
moderate



3
strong

Ad. 12: Leaf: shape of blade

To be provided

Ad. 17: Inflorescence: length of peduncle

To be provided

Ad. 18: Inflorescence: length of main rachis

To be provided

Ad. 19: Inflorescence: length of basal racemes

To be provided

Ad. 21: Inflorescence: stigma color at anthesis

To be observed at anthesis.

Ad. 24: Seed: surface texture

To be provided

Ad. 25: Time of beginning of flowering

The time of beginning of flowering should be assessed when 50% of the plants have at least one inflorescence fully emerged.

9. Literature

Assis, G.M.L. de, Euclydes, R.F., Cruz, C.D. and Valle, C. B. do. 2003: Discriminação de Espécies de Brachiaria Baseada em Diferentes Grupos de Caracteres Morfológicos. R. Bras. Zootec., v.32, n.3, pp.576-584

Dahmer, N., Schifino-Wittman, M.T., Dall'Agnol, M., Castro, B de. Cytogenetic data for *Paspalum notatum* Flügge accessions. Sci. Agric., Piracicaba, v.65, n.4, p.381-388,2008.

ISTA International Rules for Seed Testing (ISTA 1999, ISBN 3-906549-27-5)

Miles, J. W., Maass, B. L. and Valle, C. B. do. eds. 1996: Brachiaria: Biology, Agronomy, and Improvement. CIAT Publication No. 259

Pozzobon, M.T., Valls, J.M., 1997: Chromosome number in germplasm accessions of *Paspalum notatum* (Gramineae). Braz. J. Genet., Ribeirão preto, v.20, n.1, p.29-34

Simioni, C., Schifino-Wittman, M.T., Dall'Agnol, M.: 2006 Sexual polyploidization in red clover, Sci. Agric., Piracicaba, v.63, n.1, p.26-31

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	*Urochloa brizantha* (Hochst. ex A. Rich.) Stapf. *Urochloa decumbens* Stapf. R. Webster, *Urochloa dictyoneura* (Fig. & De Not.) Veldkamp P. *Urochloa humidicola* (Rendle) Morrone & Zuloaga., *Urochloa ruziziensis* R. Germ. & Evrard. and their hybrids
1.2 Common name	Brachiaria, Spreading liverseed grass Palisade grass Congo signal grass Creeping signal grass

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 varieties)

(……..……..) 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 Seed-propagated varieties

(a) Self-pollination [ ]
(b) Cross-pollination
(i) population [ ]
(ii) synthetic variety [ ]
(c) Hybrid [ ]
(see below)
(d) Other [ ]
(please provide details)

4.2.2 Other
(please provide details) [...]

4.2.3 Ploidy [ ]

In the case of hybrid varieties the production scheme for the hybrid should be provided on a separate sheet. This should provide details of all the parent lines required for propagating the hybrid e.g.

Single Hybrid

(……..……..) x (……..……..)
female parent male parent

Three-Way Hybrid

(……..……..) x (……..……..)
female line male line

(……..……..) x (……..……..)
single hybrid used as female parent male parent

and should identify in particular:

(a) any male sterile lines
(b) maintenance system of male sterile lines.

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
5.2 (21)	**Inflorescence: stigma color at anthesis**		
	white	Mulato II	1[…]
	light purple		2[…]
	medium purple	BRS Piatã, MIXE LN 45	3[…]
	dark purple	Marandú, Toledo	4[…]
	black	Mulato	5[…]

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			
example to be provided			

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

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]