E

TG/PRL_MIL(proj.1)
ORIGINAL: English
DATE: 2004-06-24

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

*

PEARL MILLET

UPOV Code: PENNI_GLA

Pennisetum glaucum (L.) R. Br.

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 thirty-third session,
to be held in Poznań, Poland, June 28 to July 2, 2004

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Pennisetum glaucum (L.) R. Br.	Pearl Millet	Pénicillaire, Mil à chandelle	Federborstengras	Panizo de Daimiel, Panizo mamozo

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 guidelines ("Test Guidelines") should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as the "General Introduction") and its associated "TGP" documents.

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

TABLE OF CONTENTS PAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Pennisetum glaucum* (L.) R. Br.

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.

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

1 kg.

2.4 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.

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

2.6 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

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 recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 240 plants, which should be divided between two or more 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 Number of Plants / Parts of Plants to be Examined

3.5.1 In the case of inbred lines and single-cross hybrids, unless otherwise indicated, all observations should be made on 20 plants or parts taken from each of 20 plants.

3.5.2 In the case of three-way cross hybrids and cross-pollinated varieties, unless otherwise indicated, all observations should be made on 30 plants or parts taken from each of 30 plants.

3.6 Additional Tests

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.2 Uniformity

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

4.2.2 For the assessment of uniformity of inbred lines and single-cross hybrid varieties, a population standard of { x }% and an acceptance probability of at least { y } % should be applied. In the case of a sample size of { a } plants, [{ b } off-types are] / [1 off-type is] allowed.

4.2.3 The assessment of uniformity for cross-pollinated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.

4.2.4 The assessment of uniformity for hybrid varieties, other than single-cross hybrid varieties, depends on the type of hybrid and should be according to the recommendations for hybrid varieties in the General Introduction.

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 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:

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

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 States of Expression and Corresponding Notes

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

(*) Asterisked characteristic – see Chapter 6 (Section 6.1.2)

QL Qualitative characteristic – see Chapter 6 (Section 6.3)
QN Quantitative characteristic – see Chapter 6 (Section 6.3)
PQ Pseudo-qualitative characteristic – see Chapter 6 (Section 6.3)

MG: single measurement of a group of plants or parts of plants – see Section 3.3.2
MS: measurement of a number of individual plants or parts of plants – see Section 3.3.2
VG: visual assessment by a single observation of a group of plants or parts of plants – see Section 3.3.2
VS: visual assessment by observation of individual plants or parts of plants – see Section 3.3.2

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

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

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

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1.		**Plantule: intensity of anthocyanin coloration of base**					
QN	**(a)**	absent or very weak					1
		weak					3
		medium					5
		strong					7
		very strong					9
2.		**Plant: height**					
(+)							
QN	**(g)**	very short					1
		short					3
		medium					5
		tall					7
		very tall					9
3.		**Culm: diameter**					
(+)							
QN	**(g)**	small					
		medium					
		large					
4.		**Culm: tillering attitude**					
QN	**(e)**	erect					1
		intermediate					3
		prostrate					5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5.		**Culm: synchronism of basal tillers in the panicles maturity**					
		coincident					3
		intermediate					5
		non coincident					7
6.		**Culm: tillering capacity (basal)**					
QN	**(g)**	low					3
		medium					5
		high					7
7. **(+)**		**Culm: number of productive basal tillers**					
QN		low					3
		medium					5
		high					7
8.		**Culm: emergence of nodal tillers**					
QN	**(g)**	low					3
		medium					5
		high					7
9.		**Culm: color of node**					
PQ	**(g)**	green					1
		red					2
		purple					3
		brown					4

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10.		**Culm: color of internode**					
PQ	**(g)**	white					1
		green					2
		red					3
		purple					4
		brown					5
11.		**Culm: node pubescence**					
QL	**(c)**	absent					1
		present					2
12.		**Culm: lodging susceptibility**					
	(g)	low					3
		medium					5
		high					7
13.		**Culm: succulence**					
QL	**(g)**	absent					1
		present					2
14.		**Leaf: ray**					
QL	**(b)**	absent					1
		present					2
15.		**Leaf: attitude**					
(+)							
QN	**(e)**	erect					1
		intermediate					2
		pendant					3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16.		**Leaf: length of blade**					
(+)							
QN		short					3
		medium					5
		long					7
17.		**Leaf: width of blade**					
(+)							
QN	**(e)**	narrow					3
		medium					5
		broad					7
18.		**Leaf: blade color**					
PQ	**(e)**	light green					1
		medium green					2
		dark green					3
		yellow					4
		red					5
		purple					6
		variegated					7
19.		**Leaf: color of midrib**					
PQ	**(e)**	white or colorless					1
		greenish					2
		brown					3
20.		**Leaf: sheath pubescence**					
QL	**(e)**	absent					1
		present					2

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21.		**Leaf: sheath pigmentation**					
PQ	**(g)**	green					1
		red					2
		purple					3
		variegated					4
22.		**Panicle: shape**					
(+)							
PQ	**(g)**	cylindrical					1
		conical					2
		spindle (fusiforme)					3
		club (claviforme)					4
		candle (forma de vela)					5
		dumb-bell (forma de halteres)					6
		lanceolate					7
		oblanceolate					8
		globose					9
23.		**Panicle: size**					
QN	**(g)**	small					3
		medium					5
		large					7
24.		**Panicle: maximum diameter**					
(+)							
QN	**(g)**	small					3
		medium					5
		large					7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
25.		**Panicle: density**					
QN	**(f)**	loose					3
		intermediate					5
		compact					7
26. **(+)**		**Panicle: type and extension of peduncle / type and distance of exsertion**					
QN	**(g)**	negative					3
		zero					5
		positive					7
27.		**Panicle: glume color**					
PQ	**(g)**	light green					1
		red tips					2
		red					3
		purple tips					4
		purple					5
28.		**Panicle: bristle**					
QL	**(c)**	absent					1
		present					2
29. **(+)**		**Panicle: bristle length**					
QN	**(c)**	short					1
		medium					3
		long					5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30.		**Panicle: bristle color**					
(+)							
PQ	**(g)**	green					1
		tan tips					2
		light red					3
		red					4
		purple					5
31.		**Panicle: bristle ornamentation**					
(+)							
PQ	**(g)**	scabrous					1
		ciliate					2
		plumose					3
32.		**Panicle: mono-aristation length**					
(+)							
QN	**(g)**	short					3
		intermediate					5
		long					7
33.		**Panicle: poly-aristation density**					
(+)							
QN	**(g)**	sparse					3
		intermediate					5
		dense					7
34.		**Panicle: stigma pigmentation**					
QL	**(c)**	absent					1
		present					2

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35.		**Panicle: anther color**					
PQ	**(d)**	green					1
		cream yellow					2
		yellow					3
		brown					4
		purple					5
36. **(+)**		**Time from emergence to flowering**					
QN		very early					1
		early					3
		medium					5
		late					7
		very late					9
37. **(+)**		**Caryopsis: covering by the glume**					
QN	**(f)**	exposed					3
		intermediate					5
		enclosed					7
38. **(+)**		**Caryopsis: apex shape**					
QL	**(i)**	rounded					1
		mucronate					2

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
39.		**Caryopsis: shape**					
(+)							
PQ		obovate					1
		oblanceolate					2
		elliptical					3
		hexagonal					4
		globular					5
40.		**Caryopsis: color**					
PQ	**(h)**	yellow					1
		grey					2
		dark grey					3
		bronze					4
		brown					5
		purple					6
		dark purple					7
		a mixture of white and grey					8
41.		**Caryopsis: endosperm texture**					
(+)							
QN	**(i)**	completely glassy					1
		¾ glassy					3
		½ glassy					5
		¾ floury					7
		completely floury					9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
42.		**Culm: juice quality**					
(+)							
QN	**(g)**	insipid					3
		intermediate					5
		sweet					7
43.		**Leaf: sheath pigmentation**					
PQ	**(b)**	green					1
		red					2
		purple					3
		variegated					4
44.		**Leaf: anthocyanin coloration of blade**					
PQ	**(g)**	green					1
		red					2
		purple					3
		variegated					4
45.		**Seed: hectoliter (hectolitro) weight ( )**					

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 at the following stages:

(a) Two leaves widely opened
(b) Before flowering
(c) At full flowering
(d) At full flowering (before dehiscence)
(e) Panicle emergency
(f) Physiological maturity
(g) Viscous grain
(h) After thrash
(i) After harvest time

8.2 Explanations for individual characteristics

Ad. 2: Plant: height

Measure from the ground level to the tip of the panicle and consider:
- very short……< 80 cm
- short……81 a 120 cm
- medium……...121 a 180 cm
- tall……...181 a 240 cm
- very tall.....> 241 cm

The following information should be added:
- Date of sowing (of the two years of tests):
- Site:
- Latitude:
- Longitude:

Ad.3: Culm: diameter

Measure between the third and fourth nodes below of the panicle.

Ad. 7: Culm: number of productive basal tillers

Consider:
- low……..1-2
- medium……3-5
- high……..> 5

Ad.15: Leaf: attitude

Assess the third leaf below the flag leaf and consider:
- erect…….0° to 30°
- intermediate…….31° to 60°
- pendent…….> 60°

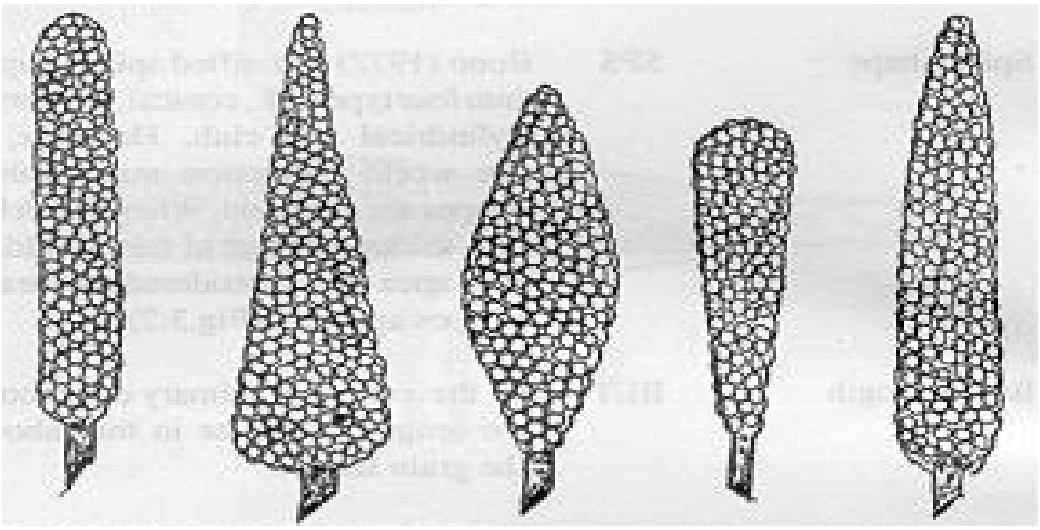
Ad. 16: Leaf: length of blade

Assess on the fourth node below the panicle on main culm.

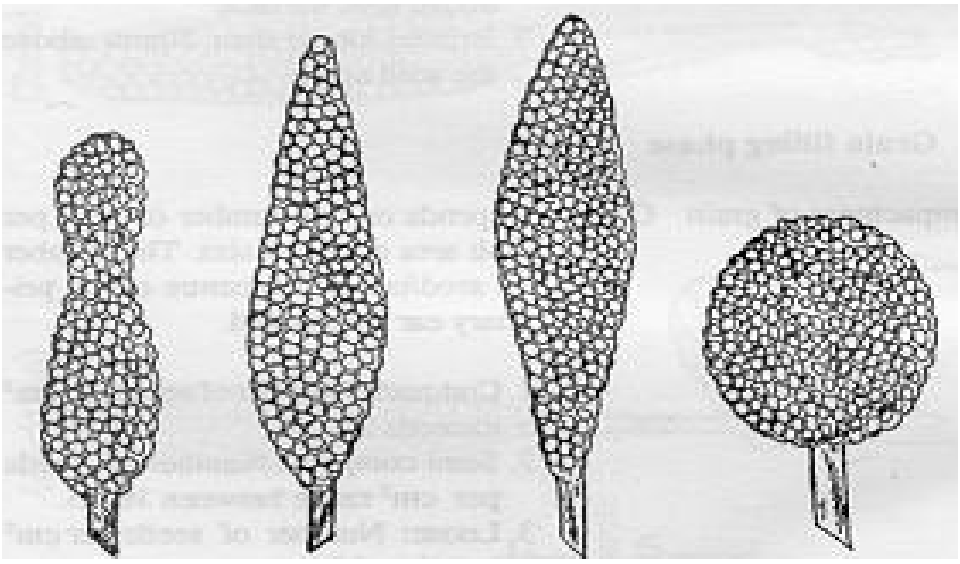
Ad. 17: Leaf: width of blade

Assess on the fourth node below the panicle on main culm.

Ad. 22: Panicle: shape



1	2	3	4	5
cylindrical	conical	spindle	club	candle

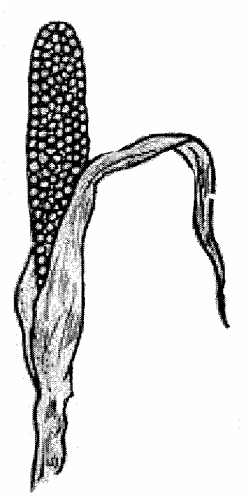


6	7	8	9
dumb-bell	lanceolate	oblanceolate	globose

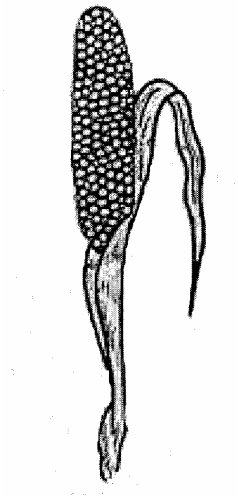
Ad. 24: Panicle: maximum diameter

Assess in the medium third of the panicle, excluding the bristles.

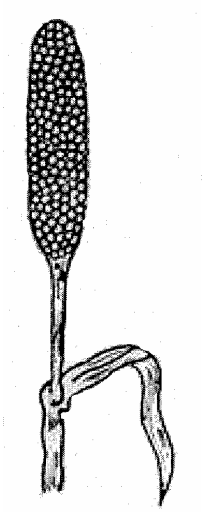
Ad. 26: Panicle: type and extension of the peduncle



3
negative



5
zero



7
positive

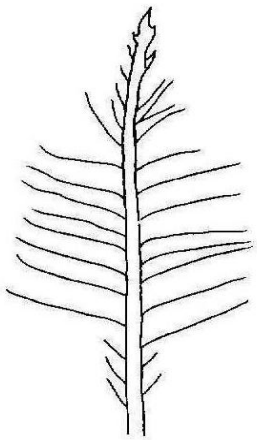
Ad. 29: Panicle: bristle length

Measure in the panicle of the main culm above of the grain surface and consider:

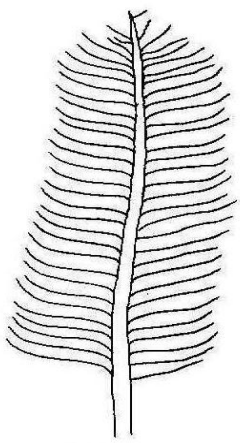
- short…….below of the level of grain apex
- medium……until 2 cm
- long……..more than 2 cm above of the grain apex

Ad. 31: Panicle: bristle ornamentation

1
scabrous

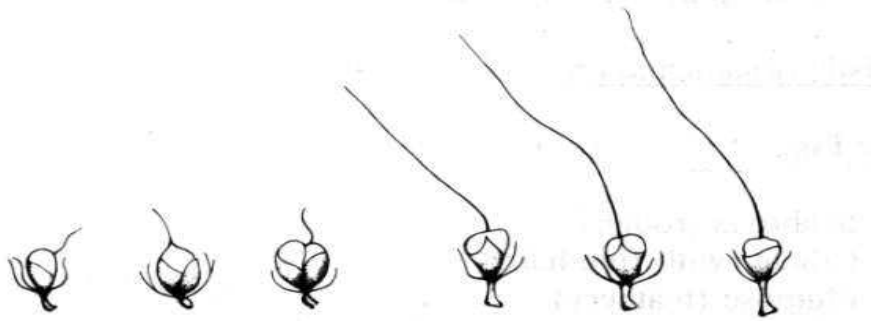


2
ciliate



3
ciliate

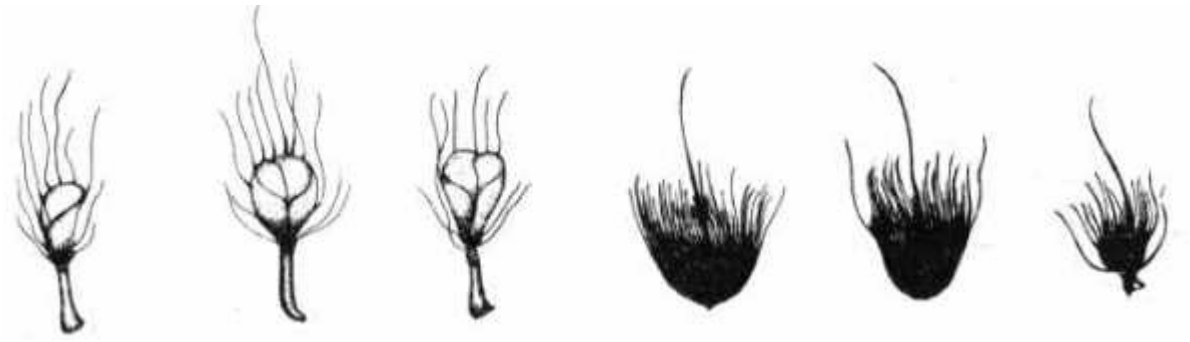
Ad. 32: Panicle: mono-aristation length



3
short

7
long

Ad. 33: Panicle: poly-aristation density



3
sparse

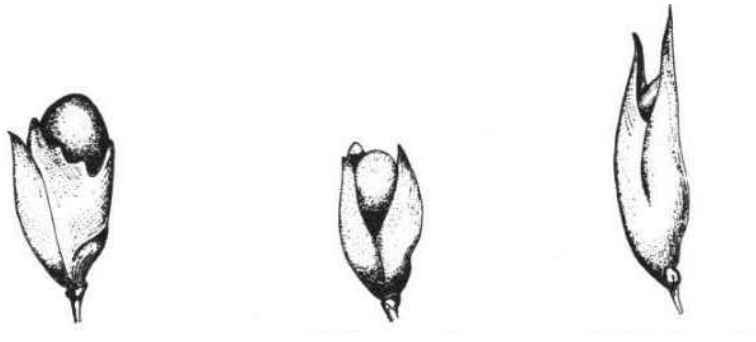
7
dense

Ad. 36: Time from emergence to flowering

Assess when 50% of plants emit the stigma in the main panicle, informing:

- date of sowing (of the two years of tests);
- site;
- latitude;
- longitude.

Ad. 37: Caryopsis: covering by the glume



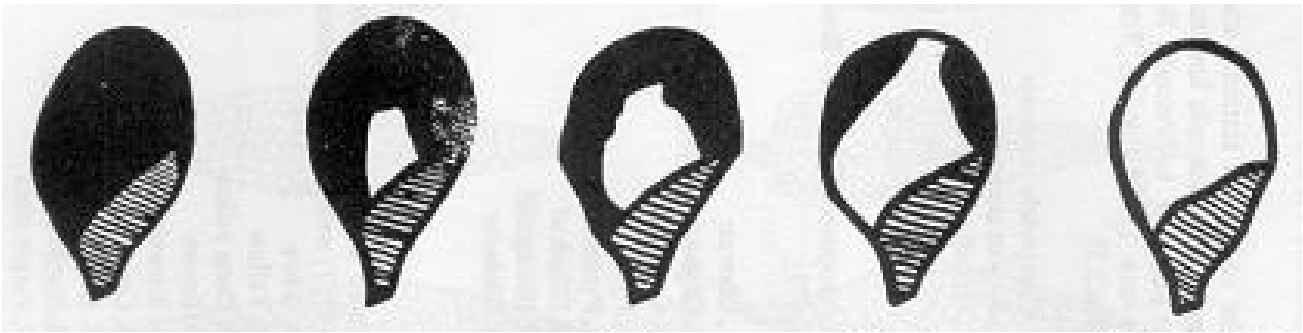
3 exposed | 5 intermediate | 7 enclosed

Ad. 39: Caryopsis: shape

1 obovate | 2 oblanceolate | 3 elliptical

4 hexagonal | 5 globular

Ad. 41: Caryopsis: endosperm texture



1 completely glassy | 2 ¾ glassy | 3 ½ glassy | 4 ¾ floury | 5 completely floury

Ad. 42: Culm: juice quality

Consider:

- insipid.....below 8º Brix
- intermediate.....from 8 to 15º Brix
- sweet.....above of 15º Brix

9. Literature

Boland, D. J.; Brooker, M. I. H.; Chippendale, G. M.; Hall, N.; Hyland, B. P. M.; Johnston, R. D.; Kleinig, D. A. & Turner, J. D. Forest trees of Australia. 4. Ed. Melbourne: Nelson: CSIRO, 1994. 703 p.

Chippendale, G. M. Eucalyptus buds and fruits. Canberra: Forestry and Timber Bureau. 96 p.

FAO. El eucalipto en la repoblación forestal. Roma, 1981. 723 p.

Goes, e. Os eucaliptos. Lisboa, 1985. 372 p

Drawings by: Anna Júlia Passold, Israel Gomes Vieira and Joel F. Penteado Jr.

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

In the case of hybrid varieties which are the subject of an application for plant breeders' rights, and where the parent lines are to be submitted as a part of the examination of the hybrid variety, this Technical Questionnaire should be completed for each of the parent lines, in addition to being completed for the hybrid variety.

1. Subject of the Technical Questionnaire

1.1 Botanical name	*Pennisetum glaucum* (L.) R. Br.
1.2 Common Name	Pearl Millet

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)
(b) partially known cross [ ]
(please state known parent variety(ies))
(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(please provide details)

…….

4.2 Method of propagating the variety

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)

[#] 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:

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

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

Three-Way Hybrid

(… female line …) x (… male line …)

=> single hybrid used as female parent x (… male parent …)

and should identify in particular:

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

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

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			

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 of 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]