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GENEVA

**TECHNICAL WORKING PARTY  
FOR  
AGRICULTURAL CROPS****Twenty-Eighth Session  
Ottawa, June 22 to 25, 1999****WORKING PAPER ON REVISED TEST GUIDELINES FOR COTTON  
(*Gossypium L.*)***Document prepared by the experts from Spain*

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## I. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Gossypium* L.: lines, hybrids and interspecific hybrid varieties.

## II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a state other than that in which the testing takes place must make sure that all customs formalities are complied with. The minimum quantity of seed to be supplied by the applicant in one or several samples should be:

3 kg of delinted seed.

If requested, in the case of hybrids and interspecific hybrid varieties, an additional 2 kg of seed of each component should be submitted. The seed should at least meet the minimum requirements for germination capacity, moisture content and purity for marketing certified seed in the country in which there application is made. The germination capacity should be as high as possible.

2. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

## III. Conduct of Tests

1. The minimum duration of tests should normally be two similar growing periods.
2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.
3. The field tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include about 500 plants which should be divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.
4. Additional tests for special purposes may be established.

## IV. Methods and Observations

1. The characteristics described in Chapter VII should be used for the testing of distinctness of lines, hybrids and interspecific hybrid varieties.

2. All observations for the assessment of distinctness and stability should be made on at least 20 plants or parts taken from each of 20 plants.
3. For the assessment of uniformity, population standard of 1 per cent with an acceptance probability of at least 95 per cent should be applied.

#### V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
  - (a) Flower: color of petal (char. 1)
  - (b) Leaf: shape (char. 10)
  - (c) Leaf: nectaries (char. 13)
  - (d) Boll: time of opening (char. 26)
  - (e) Fiber: maximum length (char. 33)

#### VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic.
3. Legend:
  - (\*) Characteristics that should be used on all varieties in every growing period over which examinations are made and always be included in the variety descriptions except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
  - (+) See Explanations on the Table of Characteristics in chapter VIII.

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

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>1. Flower: color of petal</b>					
<b>(*) (at first day of opening)</b>					
cream				Crema-III, Zeta 2	1
yellow				Acalpi	2
<b>2. Flower: color of pollen (as for 1)</b>					
<b>(*)</b>					
cream				Crema-111, C-310	1
yellow					2
dark yellow				Acalpi	3
<b>3. Flower: spot on petal (as for 1)</b>					
<b>(*)</b>					
absent/very weak				Corona, Korina	1
weak					3
medium				Acalpi	5
strong					7
very strong					9
<b>4. Plant : length of the lowest fruiting branch (at flowering stage)</b>					
<b>(*)</b>					
very short					1
short				Korina	3
medium				Corona, Saeta	5
long					7
very long					9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>5. Plant : type of</b>					
<b>(*) flowering of the lowest</b>					
<b>(+) fruiting branch (as for 4)</b>					
clustered					1
semi-clustered				Alegria, Korina	2
non clustered				Corona, Aria	3
<b>6. Plant : number of</b>					
<b>nodes on the lowest</b>					
<b>fruiting branch (as for 4)</b>					
very few					1
few					3
medium				C-304, Aria	5
many					7
very many					9
<b>7. Plant : ratio length/ no. of nodes on the lowest fruiting branch (as for 4)</b>					
low					3
medium				C-304	5
high					7
<b>8. Plant : height of insertion of lowest fruiting branch (as for 4)</b>					
very low					1
low				Alegria, Lachata, Sindos 80	3
medium				4S	5
high				Crema 111	7
very high				Zeta 2	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>9. Leaf : green colour (as for 4)</b>					
light				Eva	3
medium				Victoria, 4S	5
dark				Acala SJ2	7
<b>10. Leaf : shape (when (*) leaves are fully (+) expanded)</b>					
palmate				Crema-111, Zeta 2	1
palmate to digitate				Acalpi	2
digitate				Sureña	3
lanceolate					4
<b>11. Leaf : size (as for 10)</b>					
small				Ourania	3
medium				Crema-111, 4S	5
large				Acala SJ2, Zeta 2	7
<b>12. Leaf : pubescence (lower side) (as for 10)</b>					
absent/very weak					
weak				Corona, Lachata	3
medium				Aria, Saeta	5
strong				Alegria, Stoneville 506	7
very strong				Acalpi, Akala Sindou	9
<b>13. Leaf : nectaries (as (*) for 10)</b>					
absent				Tempra	1
present				C310, Zeta 2	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>14 Stem : pubescence in (* upper part (as for 10))</b>					
absent or very weak					1
weak				Victoria	3
medium				C310, Austral	5
strong				Crema-111, Eva	7
very strong					9
<b>15. Stem : color (as for 10)</b>					
light green					1
dark green					2
red green				4S	3
<b>16. Flower : dentation of bracts (at green maturity)</b>					
very fine				Korina	1
fine					3
medium				Crema-111	5
coarse					7
very coarse					9
<b>17. Boll: size of bract (as for 16)</b>					
very small					1
small				Blanca, Ourania	3
medium				Austral, 4S	5
large				Zeta 2	7
very large					9



English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>18. Boll : size (as for 16)</b>					
small				Ourania, Sureña	3
medium				Stoneville 506, 4S	5
large				Victoria, Zeta 2	7
<b>19 Boll : shape in (* longitudinal section (+) (as for 16)</b>					
rounded				Lachata, GSA-71	1
elliptical					2
ovate				Corona, 4S	3
conical					4
<b>20. Boll : pitting of surface (as for 16)</b>					
absent or very fine					1
fine				Victoria, Vulcano	3
medium				Tabladilla 13	5
coarse					7
very coarse					9
<b>21. Boll : length of peduncle (as for 16) (* (+)</b>					
short				Stoneville 506	3
medium				Crema-111	5
long				Acalpi	7
<b>22. Boll : Prominence of tip (as for 16) (* (+)</b>					
weak				Alegria	3
medium				Corona	5
strong				Nata	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>23 Plant : shape (as for 16)</b> (* (+)					
cylindrical					1
conical				Crema-111	2
spreading				C-310	3
<b>24. Plant : density of foliage (as for 16)</b>					
sparse				Ourania	3
medium				Crema-111, 4S, Vulcano	5
dense				Zeta 2	7
<b>25 Plant : height (as for 16)</b> (*					
very short					1
short				Corona	3
medium				C315, 4S	5
tall				Tempra, Zeta 2	7
very tall				Acalpi	9
<b>26. Boll : time of opening</b> (* (when 50% of the plants have at least one boll opened)					
very early				Tabladilla 100	1
early				Tabladilla 16, Sindos 80	3
medium				C-310, Korina	5
late				Acala SJ2, Zeta 2	7
very late				Acalpi, Vered 171	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>27. Boll : degree of opening (at full maturity)</b>					
weak					3
medium				Corona, Vulcano	5
strong					7
<b>28. Seed : presence of (* ) fuzz (as for 27)</b>					
absent					1
present				Corona, C310	9
<b>29. Seed : density of fuzz (as for 27)</b>					
very sparse					1
sparse				Austral, Ourania	3
medium				4S, Corona	5
dense				Victoria, Zeta 2	7
very dense					9
<b>30. Seed : color of fuzz (as for 27)</b>					
white				Zeta 2, Tabladilla 16	
grey				Sindos 80	
light green				Corona, Saeta	
light brown				Ourania, Nata	
<b>31. Seed: weight (as for 27)</b>					
low				Corona, Ourania	3
medium				Alegria, 4S	5
high				Acala SJ2, Zeta 2	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>32. Boll : content of lint (as for 27)</b>					
very low					1
low				Ourania	3
medium				Vulcano, Sindos 80	5
high				Crema-111, Zeta 2, Penta	7
very high				Coko, Sureña	8
<b>33. Fiber: maximum length (as for 27)</b> (* (+)					
very short					1
short					3
medium				Crema-111, Sindos 80	5
long				C-310, Zeta 2	7
very long				Ourania	9
<b>34. Fiber: strength (as for 27)</b> (* (+)					
very weak					1
weak					3
medium				Corona, Sindos 80	5
strong				Crema-111, Zeta 2	7
very strong				Ourania	9
<b>35. Fiber : elongation (as for 27)</b> (* (+)					
very small					1
small				Victoria	3
medium				Crema-111	5
large				Corona	7
very large					9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>36. Fiber: fineness (as for 27)</b>					
(*)					
(+)					
very fine					1
fine				Victoria, Sindos 80, Ourania	3
medium				Crema-111, Zeta 2	5
coarse				Samos	7
very coarse					9
<b>37. Fiber: uniformity (as for 27)</b>					
(*)					
(+)					
very low					1
low					3
medium				Victoria, 4S	5
high				Crema-111, Zeta 2	7
very high					9
<b>38. Fiber : color (as for 27)</b>					
white				C310, Zeta 2	1
not white					2

VIII. Explanations on the Table of Characteristics

Ad. 5: Plant: type of flowering of the lowest fruiting branch

1  
clustered

2  
semiclustered

3  
non clustered

Ad. 10 Leaf: shape

1  
palmate

2  
palmate

3  
digitate

4  
lanceolate

Ad. 19: Boll: shape

1  
rounded

2  
elliptical

3  
ovate

4  
conical

Ad. 22: Boll: prominence of tip

3

5

7

Ad. 23: Plant: shape

1  
cylindrical

2  
conical

3  
spreading

Ad. 33: Fiber: maximum length

Ad. 34: Fiber: strength

Ad. 35: Fiber: elongation

Ad. 36: Fiber: fineness

Ad. 37: Fiber: uniformity

Characteristics 33, 34, 35, 36 and 37 should be observed according to:

- Standard Test Methods for Measurement of Cotton Fibres by High Volume Instruments (HVI) (Motion Control Fiber Information System). Designation D-4605-86, established by the American Society for Testing and Materials (ASTM).

The uniformity ratio of the fiber is the ratio between two span lengths, the upperhalf mean length (50%) and the mean length of the longest 2.5% fibres, expressed as a percentage of the longest mean length.

IX. Literature

No specific literature.



X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>	
<p>1. Genus <i>Gossypium</i> L. COTTON</p> <p>1.1 <i>Gossypium hirsutum</i> L. [ ] 1.2 <i>Gossypium barbadense</i> L. [ ] 1.3 Interspecific hybrids (Hybrids of 1.1 and 1.2) [ ] 1.4 Others [ ]</p>	
<p>2. Applicant (Name and address)</p>	
<p>3. Proposed denomination or breeder's reference</p>	

4. Information on origin, maintenance and reproduction of the variety

4.1 Type of material

(i) inbred line

- male sterile line [ ]

- male fertile line [ ]

(ii) hybrid [ ]

(iii) other (please indicate) [ ]

.....

4.2 Formula (if applicable, for each component in separate sheets, the information according to the following chapters 5 to 7 to be added)

Single hybrid

- female parental line .....

- male parental line .....

N.B. In case of use of male sterility system, indicate the name of the maintainer line of the female parental line.

4.3 Genetic origin and breeding method

4.4 Other information on genetic origin and breeding method.

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

Characteristics	Example Varieties	Note
<b>5.1 Flower: color of petal (1)</b>		
cream	Crema-11, Zeta 2	1[ ]
yellow	Acalpi	2[ ]
<b>5.2 Leaf: shape (10)</b>		
palmate	Crema-111, Zeta 2	1[ ]
palmate to digitate	Acalpi	2[ ]
digitate	Sureña	3[ ]
lanceolate		4[ ]
<b>5.3 Leaf: nectaries (13)</b>		
absent	Tempra	1[ ]
present	C310, Zeta 2	9[ ]
<b>5.4 Boll: time of opening (26)</b>		
very early	Tabladilla 100	1[ ]
early	Tabladilla 16, Sindos 80	3[ ]
medium	C-310, Korina	5[ ]
late	Acala SJ2, Zeta 2	7[ ]
very late	Acalpi, Vered 171	9[ ]

Characteristics	Example Varieties	Note	
<b>5.5 Fiber: length (33)</b>			
very short		1[ ]	
short		3[ ]	
medium	Crema-111, Sindos 80	5[ ]	
long	C-310, Zeta 2	7[ ]	
very long	Ourania	9[ ]	
<b>6. Similar varieties and differences from these varieties</b>			
Denomination of similar variety	Characteristic in which the similar variety is different <sup>o)</sup>	State of expression of similar variety	State of expression of candidate variety
<p><sup>o)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference.</p>			

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

7.3 Other information

A representative color photo of the variety should be added to the Technical Questionnaire.

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 that question is yes, please attach a copy of such an authorization.

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