



**TWO/33/10**

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**TECHNICAL WORKING PARTY  
FOR  
ORNAMENTAL PLANTS AND FOREST TREES**

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WORKING PAPER ON TEST GUIDELINES FOR TAGETES (*Tagetes* L.)

*Document prepared by experts from France*

## I. Subject of these Guidelines

These Test Guidelines apply to all vegetatively propagated varieties of *Tagetes* L. of the family Compositae.

### ***(Proposal to delete from DE):***

These guidelines are particularly adopted to the following species:

- *Tagetes erecta* L. (*Tagetes* rose d'Inde double ou *Tagetes* élevée)
- *Tagetes patula* L. (œuillet d'Inde, *Tagetes* étalée)
- *Tagetes lucida* Cav.
- *Tagetes tenuifolia* Cav.

and triploide varieties from interspecific crosses between *T. erecta* and *T. patula* )

## 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. As a minimum, the following quantity of plant material is recommended:

10 grams of seeds

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases.
3. 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. A test should normally be conducted for one growing period after the year of establishment. If distinctness and/or uniformity cannot be sufficiently established in one growing period, the test should be extended for a second growing period.
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 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 a total of 60 plants. 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. All observations determined by measurement or counting should be made on 20 plants or parts taken from each of 20 plants at the time of full flowering.
2. For the assessment of uniformity a population standard of 3% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 60 plants, the maximum number of off-types allowed would be 4.

#### **(or as proposed by DE):**

**For the assessment of uniformity of seed propagated varieties the breeding history of the variety has to be taken to consideration.**

3. Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerance set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

#### 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) Plant: height (characteristic 2)
- (b) Inflorescence: type (characteristic 10)
- (c) Inflorescence: number of colours (characteristic 12)
- (d) Flower: colour (characteristic 13)

#### 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. Ploidy :</b>	<b>Ploïdie :</b>				
Diploid	diploïde			Monsieur Majectic, Tangerine orange	2
Triploid	triploïde	<i>Proposal to delete DE</i>		Red seven star, Fire work, Zenith yellow	3
<b>2* Plant : height</b>	<b>Plante : hauteur</b>	<b>Pflanze : volumen</b>			
very short	très basse			Cupidon, Goden boy	1
short	basse			Mistral, Spry	3
medium	moyenne			Monsieur Majestic, Golden, Jubilee	5
tall	haute			Sourire, Jaune suprême	7
very tall	très haute			Orange prince, Lemon queen	9
<b>3* Plant : growth habit</b>	<b>Plante : port</b>	<b>Pflanze : form</b>			
very branched	très ramifié			Pumila	1
branched	ramifié				2
globular	globuleux				3
compact	compact			Gnorn, Discovery orange	4
<b>4 Leaf : type</b>	<b>Feuille : type</b>	<b>Blatt :</b>	<b>Hoja :</b>		
+					
pennate	penné			type <i>T. erecta et patula</i>	1
<u>???</u> and lanceolate	simple et lancéolé			type <i>T. lucida</i>	2
denticulated in narrow strips	découpé en lanières étroites			type <i>T. tenuifolia</i>	3
<b>5 Leaf : length</b>	<b>Feuille : longueur</b>	<b>Blatt :</b>	<b>Hoja :</b>		
short	Courte				3
medium	Moyenne				5
long	Longue				7

English	Français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>6 Leaf : width</b>	<b>Feuille : largeur</b>	<b>Blatt :</b>	<b>Hoja :</b>		
very narrow	très étroite				1
narrow	étroite				3
medium	moyenne				5
broad	large				7
very broad	très large				9
<b>7 Leaf : intensity of green color</b>	<b>Feuille : intensité de la couleur</b>	<b>Blatt :</b>	<b>Hoja :</b>		
light	Claire			Fework jaune	3
medium	Moyenne				5
dark	Foncée			Bonanza gelb	7
<b>8 Leaf : aroma</b>	<b>Feuille : arôme</b>	<b>Blatt :</b>	<b>Hoja :</b>		
absent	Absent	fehlend	ausente	Hawai	1
present	Présent	vorhanden	presente	Cupidon double	2
<b>9* Inflorescence: size</b>	<u>Capitule : taille</u>				
very small	très petite			Ornament, Tangerine gem	1
small	petite			Disco orange	3
medium	moyenne			Bonanza harmony, Aurora orange	5
large	grande			Queen bee	7
very large	très grande	<i>To be placed after 10</i>		Red seven star	9
<b>10 Inflorescence: flower type</b>	<b>Capitule : type de fleurs</b>				
all tubulate	toutes tubulées			Orange prim, Lemon queen	1
Tubulate and ?? ...	tubulées et ligulées			Little hero spry	2
All ??	toutes ligulées				3
<i>Do we have to introduce others types and which ? DE</i>					

English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>11</b>	Tubular and liguled flowers varieties only	seulement pour variétés à fleurs tubulées et ligulées			
	<b>Inflorescence: number of ray floret whorls</b>	<b>Capitule : nombre de couronnes de fleurs ligulées</b>			
	one	une		Monsieur Majestic, Disco orange	..?..
	several	Plusieurs	<i>To integrate with 10 ? DE</i>	Little hero s pry, Bonanza bee	..?..
<b>12*</b>	<b>Inflorescence: number of colors</b>	<b>Capitule : nombre de couleurs</b>			
	self-coloured	Unicolore		Tangerine orange, Vanilla	1
	two-coloured	Bicolore		Monsieur Majestic, Bee	2
<b>13*</b>	<b>Inflorescence: color</b>	<u>Fleur : couleur</u>			
	cream	Crème		Vanilla, Blanca	1
	pale yellow	jaune pâle		Bonanza gelb	2
	dark yellow	jaune foncé		Excel gelg	3
	pale orange	Orange pâle		Inca orange	4
	orange	Orange		Tangerine orange	5
	red	rouge acajou			6
	brown	brun acajou	<i>Or indicate RHS Colour chart</i>		7

English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>14*</b> Two colored varieties only	<b>Seulement pour variétés bicolores</b> <u>Fleur ligulée :</u> <u>couleur principale</u>				
<b>Liguled flower: main color</b>					
cream	Crème			Vanilla, Blanca	1
pale yellow	jaune pâle			Aurora	2
dark yellow	jaune foncé			Granada	3
pale orange	orange pâle				4
orange	Orange				5
red	rouge acajou			Bonanza harmony	6
brown	brun acajou	<i>Or indicate RHS</i>	<i>Colour chart</i>		7
<b>15+</b> <i>Two-colored varieties only</i>	<i>Seulement pour variétés bicolores</i>				
<b>Flower: distribution of colors</b>	<b>Fleur : répartition des couleurs</b>				
uniform	uniforme sur tout le capitule			Queen Sophia	1
split between tubulate and ligulate flowers	séparée entre fleurs tubulées et ligulées			Bonanza sprag	2
<b>16+*</b> <b>Ray floret: distribution of colors</b>	<b>Fleur ligulée : répartition des couleurs</b>				
<u>..?..</u>	Unie ??				<u>..?..</u>
edged	bordée (type 1)			Espanared marietta	1
solid flush	zonée (type 2), <b><u>en plages continues ??</u></b>			Monsieur Majestic	2
partly colored	Panachée (type 3)			Sevilla bicolour rot gelb	3

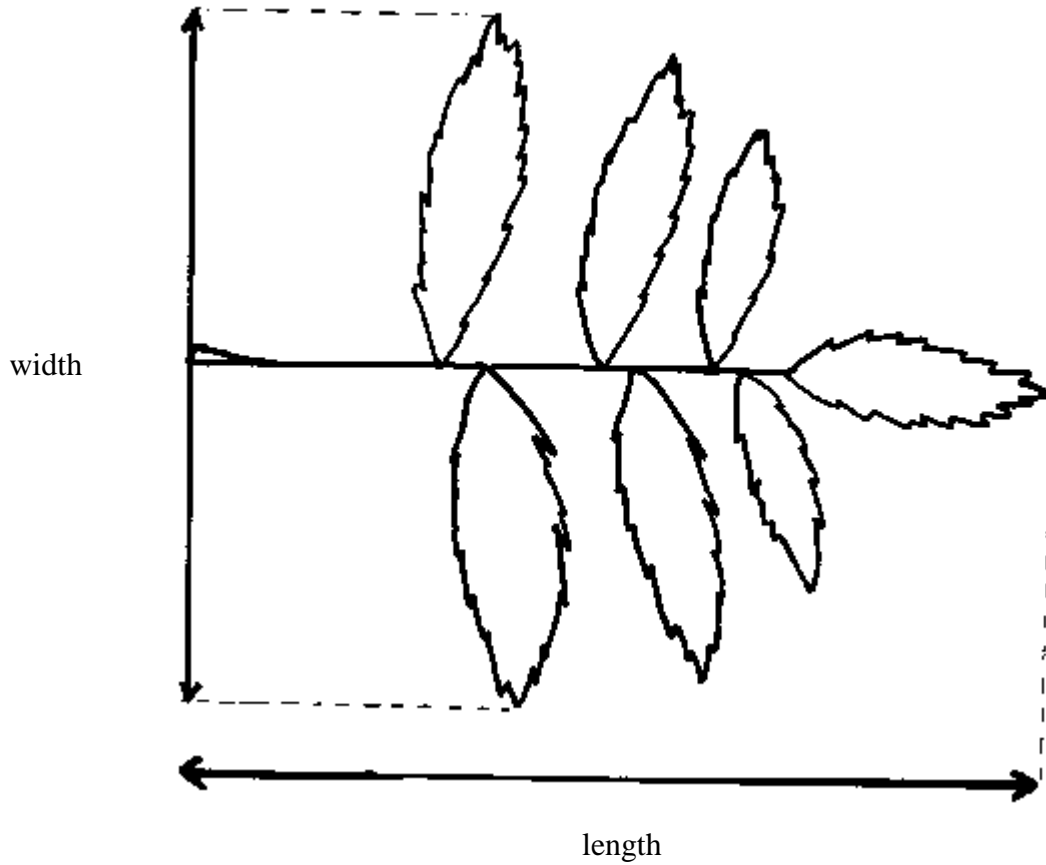
English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>17+*</b> <i>Varieties with bi-colored rayflorete of type 1 only:</i>	<i>Variétés bicolores avec des ligules de type 1</i>				
<b>Ray floret: width of margin</b>	<b>Ligule: largeur de la bordure</b>				
very narrow	Très étroite			Scarlet sophia	1
narrow	Étroite			Discoflamme, Red marietta	3
medium	Moyenne			Pascal	5
broad	Large			Granada, Sophia yellow	7
very broad	Très large			Aurora jaune	9
<b>18*</b> <b>Flowering: time of beginning of flowering</b>	<b>Floraison : précocité</b>				
early	Précoce			Double mistral, Heroflame	3
medium	Moyenne			Cupidon double, Aurora fold	5
late	Tardive			Inca yellow, Discovery orange	7



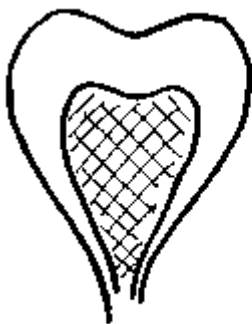
VIII. Explanations on the Table of Characteristics

Ad. 5: Leaf: length

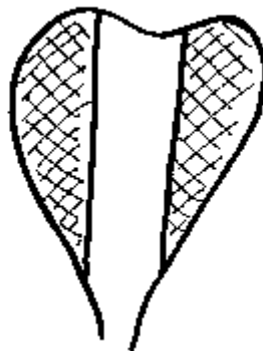
Ad.: 6: Leaf: width



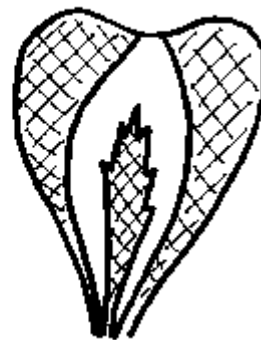
Ad. 16 : Ray floret: distribution of colors



1  
edged

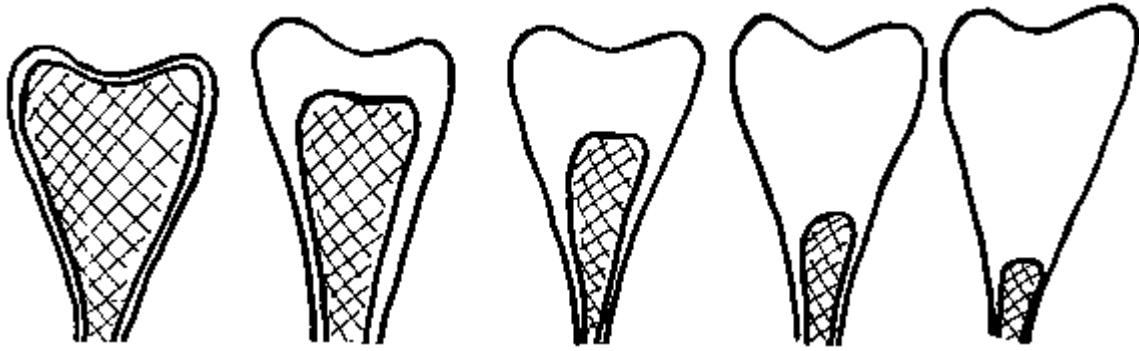


2  
solid flush



3  
partly colored

Ad. 17: Varieties with bi-coloured ray floret of type 1 only. Ray floret: width of margin



1  
very narrow

2  
narrow

5  
medium

7  
broad

9  
very broad

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>	
1. Species	<p style="text-align: center;"><i>Tagetes L.</i>  TAGETES</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	

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

## 4.1 Origin

(a) Seedling (indicate parent varieties)

..... [ ]

(b) Mutation (indicate parent variety)

..... [ ]

(c) Discovery (indicate where and when)

..... [ ]

(d) Other (specify)

..... [ ]

## 4.2 Method of reproduction

- cuttings [ ]

- *in vitro* propagation [ ]

- other (state method) [ ]

4.3 Other information (**GENETIC BACKGROUND ?**)

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 Plant: height</b>		
<b>(2)</b>		
short		3[ ]
medium		5[ ]
tall		7[ ]
<b>5.2 Inflorescence : type</b>		
<b>(10)</b>		
		[ ]
		[ ]
<b>5.3 Flower: color of upper side</b>		
<b>(13) RHS- Colour Chart (indicate reference number):</b>		
.....		

Characteristics	Example Varieties	Note
<b>5.4 Flower: color of upper side</b>		
<b>(13)</b>		
yellowish white		1[ ]
light yellow		2[ ]
dark yellow		3[ ]
light orange		4[ ]
dark orange		5[ ]
red		6[ ]
brown		7[ ]
other color (indicate which)	.....	8[ ]
several colors (indicate which)	.....	9[ ]
<b>5.5</b>		
<b>5.6</b>		
		1[ ]
		2[ ]
		3[ ]
		4[ ]
		5[ ]
		6[ ]
		7[ ]
		8[ ]

## 6. Similar varieties and differences from these varieties

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
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<sup>o)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference.

## 7. Additional information which may help to distinguish the variety

7.1 Resistance to pest 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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