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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

Marguerite Daisy

UPOV Code: ARGYR_FRU

Argyranthemum frutescens (L.) Sch. Bip.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Germany

*to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its thirty-seventh session,
to be held in Hanover, Germany, from July 12 to 16, 2004*

Alternative Names: *

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Argyranthemum frutescens</i> (L.) Sch. Bip.	Marguerite Daisy, Paris Daisy, White Marguerite	Anthémis	Strauchmargerite	Margarita
<i>Chrysanthemum frutescens</i> L.				

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.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Argyranthemum frutescens* (L.) Sch. Bip. of the family *Asteraceae*.

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 rooted cuttings.

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

20 rooted cuttings

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 a single growing cycle.

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 *Stage of development for the assessment*

The optimum stage of development for the assessment of the characteristics is at the time of full flowering.

3.3.3 Type of observation – visual or measurement

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

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.

3.3.4 Observation of color by eye

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 tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 16 plants.

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*

Unless otherwise indicated, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test.

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 a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 16 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 tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous 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) Flower head: type (characteristic 12)
- (b) Flower head: diameter (characteristic 13)
- (c) Ray floret: main color of upper side (characteristic 19) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: pink
 - Gr. 4: red
 - Gr. 5: purple
 - Gr. 6: violet
 - Gr. 7: blue

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*

(*) Asterisk characteristic – see Section 6.1.2

(QL) Qualitative characteristic – see Section 6.3

(QN) Quantitative characteristic – see Section 6.3

(PQ) Pseudo-Qualitative characteristic – see Section 6.3

(a), (b) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1.

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 8.2.

MS: measurement of a number of individual plants or parts of plants- see Section 3.3.3.

VG: visual assessment by a single observation of a group of plants or parts of plants - see Section 3.3.3.

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. VG	Plant: habit		Pflanze: Wuchsform			
PQ	upright		aufrecht		Polyanna	1
	rounded		rundlich		Carmella	2
	spreading		breitwüchsig		Surprise Party	3
2. MS (* VG QN	Plant: height		Pflanze: Höhe			
	very short		sehr niedrig		Eleonora	1
	short		niedrig		Supaglow	3
	medium		mittel		Supadawn	5
	tall		hoch		Argyraketis	7
	very tall		sehr hoch		Supalight	9
3. VG QN	Plant: density		Pflanze: Dichte			
	sparse		locker		Petite Pink	3
	medium		mittel		Supaglow	5
	dense		dicht		Summer Melody	7
4. VG QL	Stem: anthocyanin coloration		Trieb: Anthozyanfärbung			
	absent		fehlend		Argyraketis	1
	present		vorhanden		Izu-magu 85	9
5. MS (* VG QN	Leaf: length		Blatt: Länge			
(a)	very short		sehr kurz		Sumfrut01	1
	short		kurz		Ella	3
	medium		mittel		Petite Pink	5
	long		lang		Summer Pink	7
	very long		sehr lang		Supasurprise	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	MS	Leaf: width		Blatt: Breite		
(*)	VG					
QN	(a)	very narrow	sehr schmal		Sumfrut01	1
		narrow	schmal		Ella	3
		medium	mittel		Argyraketis	5
		broad	breit		Petite Pink	7
7.	VG	Leaf: color of upper side		Blatt: Farbe der Oberseite		
(*)						
PQ		light green	hellgrün		Supaellie	1
		medium green	mittelgrün		Summer Melody	2
		dark green	dunkelgrün			3
		blue green	blaugrün		Supacher	4
		grey green	graugrün		Argyraketis	5
8.	MS	Lateral lobe: length		Seitenlappen: Länge		
(+)	VG					
QN	(a)					
	(b)	short	kurz		Ella	3
		medium	mittel		Cobsing	5
		long	lang		Supacher	7
9.	MS	Lateral lobe: width		Seitenlappen: Breite		
(+)	VG					
QN	(a)					
	(b)	narrow	schmal		Petite Pink	3
		medium	mittel		Cobsing	5
		broad	breit		Supasurprise	7
10.	VG	Lateral lobe: depth of marginal incisions		Seitenlappen: Tiefe der Randeinschnitte		
QN	(b)					
		shallow	flach		Julie Anna	3
		medium	mittel		Summer Pink	5
		deep	tief		Surprise Party	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11.	MS					
(+)	VG	Peduncle: length		Blütenstiel: Länge		
QN						
		short	kurz		Abbey Belle	3
		medium	mittel		Gretel	5
		long	lang		Julie Anna	7
12.	VG	Flower head: type		Blütenstand: Typ		
(*)						
(+)		single	einfach		Cobsing	1
PQ		semi double	halbgefüllt			2
		anemone like	anemonenförmig		Supaglow	3
		double	gefüllt		Summer Melody	4
		pompon	pompon		Rosetta	5
13.	MS	Flower head:		Blütenstand:		
(*)	VG	diameter		Durchmesser		
QN						
		very small	sehr klein		Sumfrut01	1
		small	klein		Ella	3
		medium	mittel		Cobsing	5
		large	groß		Supasurprise	7
		very large	sehr groß		Tanja	9
14.	VG	<u>Only non single</u>		<u>Nur Sorten ohne</u>		
QN		<u>flower head type</u>		<u>einfachen</u>		
		<u>varieties: Flower</u>		<u>Blütenstand:</u>		
		<u>head: number of ray</u>		<u>Blütenstand: Anzahl</u>		
		<u>florets</u>		<u>Zungenblüten</u>		
		few	gering			3
		medium	mittel		Summer Melody	5
		many	groß		Sugar Button	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15.	VG	Ray floret:	Zungenblüte:			
(+)		longitudinal axis	Längsachse			
PQ		incurved	aufgebogen			1
		straight	gerade			2
		reflexed	zurückgebogen			3
16.	MS	Ray floret: length	Zungenblüte: Länge			
(*)	VG					
QN		short	kurz		Ella	3
		medium	mittel		Tesi	5
		long	lang		Supasurprise	7
17.	MS	Ray floret: width	Zungenblüte: Breite			
(*)	VG					
QN		narrow	schmal		Ella	3
		medium	mittel		Suparosa	5
		broad	breit		Summer Angel	7
18.	VG	Ray floret: number	Zungenblüte:			
(*)		of colors	Anzahl Farben			
QL		one	eine		Ella	1
		two	zwei			2
		more than two	mehr als zwei			3
19.	VG	Ray floret: main	Zungenblüte:			
(*)		color of upper side	Hauptfarbe der			
PQ			Oberseite			
		RHS Colour Chart (indicate reference number)	RHS-Farbkarte (Nummer angeben)			
20.	VG	Ray floret:	Zungenblüte:			
(*)		secondary color of	Sekundärfarbe der			
PQ		upper side	Oberseite			
		RHS Colour Chart (indicate reference number)	RHS-Farbkarte (Nummer angeben)			

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21. PQ	VG	Ray floret: main color of lower side	Zungenblüte: Hauptfarbe der Unterseite			
		RHS Colour Chart (indicate reference number)	RHS-Farbkarte (Nummer angeben)			
22. (*) (+) QN	MS VG	<u>Only varieties with flower head type: single; semi double; and anemone like:</u> Disc: diameter	<u>Nur Sorten mit einfachem, halbgefüllten oder anemonenförmigen Blütenstand:</u> Scheibe: Durchmesser			
		small	klein		Sugar Baby	3
		medium	mittel		Gretel	5
		large	groß		Surprise Party	7
23. (*) PQ	VG	<u>Only varieties with flower head type: single and semi double:</u> Disc: main color	<u>Nur Sorten mit einfachem und halbgefülltem Blütenstand:</u> Scheibe: Hauptfarbe			
		white	weiß			1
		yellow	gelb			2
		yellow orange	gelb orange			3
		red	rot			4
		yellow brown	gelb braun			5
		brown	braun			6
24. (*) PQ	VG	<u>Only varieties with anemone like flower head type:</u> Disc floret: color	<u>Nur Sorten mit anemonenförmigem Blütenstand:</u> Röhrenblüte: Farbe			
		RHS Colour Chart (indicate reference number)	RHS-Farbkarte (Nummer angeben)			

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25. (*)	VG	Time of beginning of flowering		Zeitpunkt des Blühbeginns		
QN	early		früh			3
	medium		mittel			5
	late		spät			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:

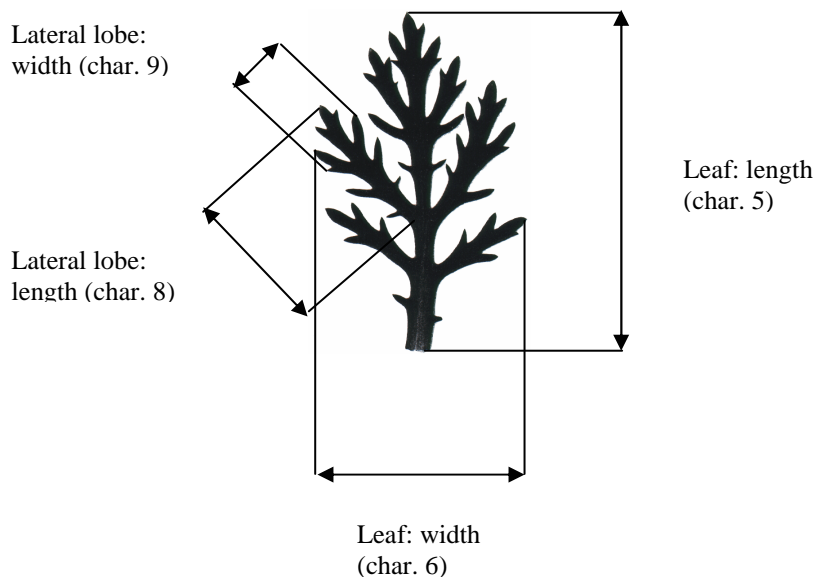
(a) Leaf characteristics:

Ad. 5: Leaf: length

Ad. 6: Leaf: width

Ad. 8: Lateral lobe: length

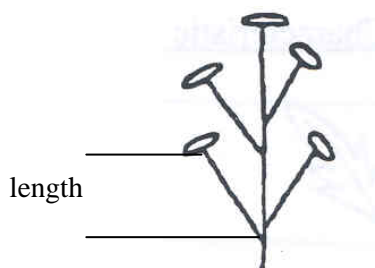
Ad. 9: Lateral lobe: width



(b) All observations on the lateral lobe should be made on the longest lateral lobe of a fully grown leaf.

8.2 *Explanations for individual characteristics*

Ad. 11: Peduncle: length



Observations to be made on the largest peduncle

Ad. 12: Flower head: type

1. single: flower heads with one row of ray florets, and a clearly defined central disc which is always visible.
2. semi double: flower heads with more than one row of ray florets, and a clearly defined central disc which is always visible.
3. anemone like: flower heads with one or more rows of ray florets, with a central "cushion" of petaloid disc florets, which is always visible and clearly defined.
4. double: double flower heads where a disc is not visible in the early stages of flowering, but can be seen as the flower head opens fully. The disc is not always clearly defined.
5. pompon: double flower heads where a disc is not visible at any stage of flowering.



1
single



2
semi double



3
anemone like



4
double



5
pompon

Ad. 15: Ray floret: longitudinal axis



1
incurved

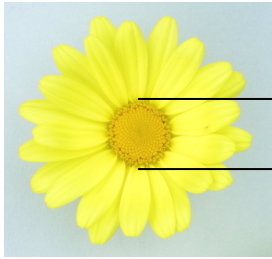


2
straight

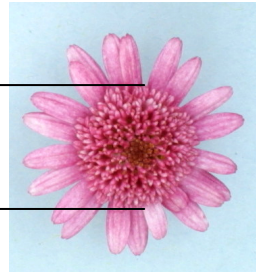


3
reflexed

Ad. 22: Disc: diameter



Disc:
diameter



9. Literature

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="Argyranthemum frutescens (L.) Sch. Bip."/>	
1.2 Common name	<input type="text" value="Marguerite Daisy"/>	
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 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 Vegetative propagation

- (a) cuttings []
- (b) *in vitro* propagation []
- (c) other (state method) []

4.2.2 Seed []

4.2.3 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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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 Plant: height (2)		
very short	Eleonora	1[]
short	Supaglow	3[]
medium	Supadawn	5[]
tall	Argyraketis	7[]
very tall	Supalight	9[]
5.2 Leaf: color of upper side (7)		
light green	Supaellie	1[]
medium green	Summer Melody	2[]
dark green		3[]
blue green	Supacher	4[]
grey green	Argyraketis	5[]
5.3 Flower head: type (12)		
single	Cobsing	1[]
semi double		2[]
anemone like	Supaglow	3[]
double	Summer Melody	4[]
pompon	Rosetta	5[]
other (indicate type)	[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.4 Flower head: diameter (13)		
very small	Sumfrut01	1[]
small	Ella	3[]
medium	Cobsing	5[]
large	Supasurprise	7[]
very large	Tanja	9[]
5.5i Ray floret: main color of upper side (19)		
RHS Colour Chart (indicate reference number)	
5.5ii Ray floret: main color of upper side (19)		
white		1[]
yellow		2[]
pink		3[]
red		4[]
purple		5[]
violet		6[]
blue		7[]
other color (indicate which)	

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 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