TG/09/5(proj.1)
ORIGINAL: English
DATE: January 17, 2003

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

RUNNER BEAN

(*Phaseolus coccineus* L.)

*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

Latin	*English*	*French*	*German*	*Spanish*
Phaseolus coccineus L.	Runner Bean	Haricot d'Espagne	Prunkbohne	Judía escarlata

ASSOCIATED DOCUMENTS

These 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 Guidelines

These Test Guidelines apply to all varieties of *Phaseolus coccineus* L.

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:

2,000 g or at least 6,000 seeds.

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 Duration of Tests

The minimum duration of tests should normally be two independent growing cycles.

3.2 Testing Place

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

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 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.

3.4.2 Each test should be designed to result in a total of at least 60 plants, which should be divided between two or more replicates.

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations determined by measuring or counting should be made on 20 plants or parts taken from each of 20 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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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. The assessment of uniformity for cross-pollinated varieties should be according to the recommendations 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 or 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 is 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) Plant: growth type (characteristic 2);

(b) Flower: color of standard (characteristic 12);

(c) Flower: color of wing (characteristic 13);

(d) Pod: suture strings (characteristic 17);

(e) Seed: main color (characteristic 28);

(f) Varieties with seeds with more than one color only: Seed: secondary color (characteristic 29);

(g) Varieties with seeds with more than one color only: Seed: distribution of predominant secondary color (characteristic 30).

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 Section 6.1.2

(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

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

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	**Plant: anthocyanin coloration of hypocotyledon**	**Plante: pigmentation anthocyanique de l'hypocotyle**	**Pflanze: Anthocyanfärbung des Hypokotyls**	**Planta: pigmentación antociánica del hipocotiledón**		
	absent	absente	fehlend	ausente	Emergo, White Lady	1
	present	présente	vorhanden	presente	Fergie, Streamline	9
2. (*)	**Plant: growth type**	**Plante: type de croissance**	**Pflanze: Wuchstyp**	**Planta: tipo de crecimiento**		
	dwarf	naine	Buschform	enana	Pickwick	1
	climbing	à rames	Rankform	trepadora	Enorma	2
3.	**Dwarf bean varieties only: Plant: height**	**Variétés de haricot nain seulement: Plante: hauteur**	**Nur Sorten von Buschbohne: Pflanze: Höhe**	**Sólo variedades de judías enanas: Planta: altura**		
	short	basse	niedrig	baja		3
	medium	moyenne	mittel	media	Hammond's Dwarf Scarlet	5
	tall	haute	hoch	alta		7
4.	**Climbing bean varieties only: Plant: start of climbing (80% of plants)**	**Variétés de haricot à rames seulement: Plante: précocité d'enroulement (80% des plantes)**	**Nur Sorten von Kletterbohne: Pflanze: Beginn des Rankens (80% der Pflanzen)**	**Sólo variedades de judías trepadoras: Planta: época en que empieza a trepar (80% de las plantas)**		
	early	précoce	früh	temprana	Butler	3
	medium	moyenne	mittel	media	Flame, White Lady	5
	late	tardive	spät	tardía	White Apollo	7
5.	**Climbing bean varieties only: Plant: speed of climbing**	**Variétés de haricot à rames seulement: Plante: vitesse de croissance**	**Nur Sorten von Kletterbohne: Pflanze: Geschwindigkeit des Rankens**	**Sólo variedades de judías trepadoras: Planta: velocidad a la que trepa**		
	slow	lente	langsam	lenta	White Apollo	3
	medium	moyenne	mittel	media	Emergo Stringless	5
	rapid	rapide	schnell	rápida	Butler, Fergie	7

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	**Leaf: ground color**	**Feuille: couleur de fond**	**Blatt: Grundfarbe**	**Hoja: color de base**		
	yellow green	vert jaune	gelbgrün	verde amarillento	Sun Bright	1
	true green	vert vrai	echt grün	verde verdadero	Lekvedon Wonder	2
7. **(*)**	**Leaf: intensity of green color**	**Feuille: intensité de la couleur verte**	**Blatt: Intensität der Grünfärbung**	**Hoja: intensidad del color verde**		
	light	claire	hell	claro	Red Rum, White Lady	3
	medium	moyenne	mittel	medio	Galaxy, Kelvedon Stringless	5
	dark	foncée	dunkel	oscuro	Emergo Stringless, Pallas	7
8. **(*)**	**Leaf: blistering**	**Feuille: cloqûre**	**Blatt: Blasigkeit**	**Hoja: abullonado**		
	weak	faible	gering	débil	Desiree, Titan	3
	medium	moyenne	mittel	medio	Riley	5
	strong	forte	stark	fuerte	Enorma	7
9.	**Terminal leaflet: size**	**Foliole terminale: taille**	**Endfieder: Größe**	**Folíolo terminal: tamaño**		
	small	petite	klein	pequeño	Pallas, Sun Bright	3
	medium	moyenne	mittel	medio	Red Rum	5
	large	grande	groß	grande	Emergo	7
10. **(+)**	**Terminal leaflet: shape**	**Foliole terminale: forme**	**Endfieder: Form**	**Folíolo terminal: forma**		
	triangular	triangulaire	dreieckig	triangular	Red Rum	1
	triangular to circular	triangulaire à circulaire	dreieckig bis kreisförmig	triangular a circular	Flame	2
	circular	circulaire	kreisförmig	circular		3
	circular to quadrangular	circulaire à quadrangulaire	kreisförmig bis viereckig	circular a cuadrangular	Pallas	4
	quadrangular	quadrangulaire	viereckig	cuadrangular	Armstrong, Sun Bright	5

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. **(+)**		**Terminal leaflet: apex**	**Foliole terminale: sommet**	**Endfieder: Spitze**	**Folíolo terminal: ápice**		
		short acuminate	à pointe courte	kurz zugespitzt	acuminado corto		3
		medium acuminate	à pointe moyenne	mittel zugespitzt	acuminado medio	Armstrong	5
		long acuminate	à pointe longue	lang zugespitzt	acuminado largo	Pallas	7
12. **(*)**		**Flower: color of standard**	**Fleur: couleur de l'étendard**	**Blüte: Farbe der Fahne**	**Flor: color del estandarte**		
		white	blanc	weiß	blanco	Desiree, Emergo	1
		pink	rose	rosa	rosa	Riley	2
		red	rouge	rot	rojo	Armstrong, Painted Lady, Streamline	3
13. **(*)**		**Flower: color of wing**	**Fleur: couleur de l'aile**	**Blüte: Farbe des Flügels**	**Flor: color de la quilla**		
		white	blanche	weiß	blanco	Desiree, Painted Lady	1
		pink	rose	rosa	rosa	Riley	2
		red	rouge	rot	rojo	Armstrong, Streamline	3
14. **(*)**	**(a)**	**Pod: length (including beak)**	**Gousse: longueur (style inclus)**	**Hülse: Länge (einschließlich Zahn)**	**Vaina: longitud (incluido el pico)**		
		very short	très courte	sehr kurz	muy corta	Sun Bright	1
		short	courte	kurz	corta	Esparot, Painted Lady	3
		medium	moyenne	mittel	media	Emergo	5
		long	longue	lang	larga	Armstrong	7
		very long	très longue	sehr lang	muy larga	Liberty	9
15.	**(a)**	**Pod: maximum median width**	**Gousse: largeur médiane maximale**	**Hülse: maximale mittlere Breite**	**Vaina: anchura central máxima**		
		narrow	étroite	schmal	estrecha	Sun Bright	3
		medium	moyenne	mittel	media	Armstrong, Riley	5
		broad	large	breit	ancha	Titan	7

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16.	**(a)**	**Pod: intensity of green color**	**Gousse: intensité de la couleur verte**	**Hülse: Intensität der Grünfärbung**	**Vaina: intensidad del color verde**		
		very light	très claire	sehr hell	muy claro	Sun Bright	1
		light	claire	hell	claro	Emergo	3
		medium	moyenne	mittel	medio	Armstrong, Esparot	5
		dark	foncée	dunkel	oscuro	Pallas	7
		very dark	très foncée	sehr dunkel	muy oscuro		9
17. **(*)**	**(a)**	**Pod: suture strings**	**Gousse: fils de la suture**	**Hülse: Nahtfäden**	**Vaina: hilos de sutura**		
		absent	absents	fehlend	ausentes	Armstrong, Emergo Stringless	1
		present	présents	vorhanden	presentes	Enorma, Kelvedon Marvel	9
18.	**(a)**	**Pod: degree of curvature**	**Gousse: degré de la courbure**	**Hülse: Ausmaß der Krümmung**	**Vaina: grado de curvatura**		
		absent or very slight	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Hestia	1
		slight	faible	gering	débil	Red Rum	3
		medium	moyenne	mittel	medio	Painted Lady	5
		strong	forte	stark	fuerte	Galaxy	7
		very strong	très forte	sehr stark	muy fuerte		9
19.	**(a)**	**Pod: shape of curvature**	**Gousse: forme de la courbure**	**Hülse: Form der Krümmung**	**Vaina: forma de la curvatura**		
		concave	concave	konkav	cóncava		1
		s-shaped	en s	s-förmig	en forma de s		2
		convex	convexe	konvex	convexa		3
20. **(+)**	**(a)**	**Pod: shape of distal part (excluding beak)**	**Gousse: forme de la partie distale (style exclu)**	**Hülse: Form des distalen Teils (ohne Zahn)**	**Vaina: forma del extremo distal (excluido el pico)**		
		pointed	pointue	spitz	puntiaguda	Emergo	1
		pointed to truncate	pointue à tronquée	spitz bis abgestumpft	puntiaguda a truncada	Fergie	2
		truncate	tronquée	abgestumpft	truncada	Kelvedon Stringless	3

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	**(a)**	**Pod: length of beak**	**Gousse: longueur du style**	**Hülse: Länge des Zahns**	**Vaina: longitud del pico**		
		short	court	kurz	corto	Armstrong, Desiree	3
		medium	moyen	mittel	medio	Titan	5
		long	long	lang	largo	Flame, Red Rum	7
22. **(+)**	**(a)**	**Pod: curvature of beak**	**Gousse: courbure du style**	**Hülse: Krümmung des Zahns**	**Vaina: curvatura del pico**		
		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Sun Bright	1
		weak	faible	gering	débil	Emergo, Red Rum	3
		medium	moyenne	mittel	media	Desiree, Galaxy	5
		strong	forte	stark	fuerte	Armstrong	7
		very strong	très forte	sehr stark	muy fuerte		9
23.	**(a)**	**Pod: constrictions (at harvest maturity)**	**Gousse: étranglements (à maturité de récolte)**	**Hülse: Einschnürung (zum Zeitpunkt der Erntereife)**	**Vaina: estrangulamiento (en el momento de madurez para la cosecha)**		
		absent or very weak	absents ou très faibles	fehlend oder sehr gering	ausente o muy débil	Titan	1
		weak	faibles	gering	débil	Galaxy, Red Rum	3
		medium	moyens	mittel	medio	Armstrong, Emergo	5
		strong	forts	stark	fuerte	Enorma	7
		very strong	très forts	sehr stark	muy fuerte		9
24. **(*)**	**(b)**	**Seed: weight**	**Graine: poids**	**Samen: Gewicht**	**Semilla: peso**		
		very low	très petit	sehr gering	muy pequeño	Sun Bright	1
		low	petit	gering	pequeño	Esparot	3
		medium	moyen	mittel	medio	Hammond's Dwarf Scarlet	5
		high	élevé	hoch	alto	Streamline Stringless	7
		very high	très élevé	sehr hoch	muy alto	Liberty	9

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25. **(+)**	**(b)**	**Seed: shape of median longitudinal section**	**Graine: forme de la section longitudinale médiane**	**Samen: Form des mittleren Längsschnitts**	**Semilla: forma de la sección longitudinal central**		
		narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha	Painted Lady	1
		elliptic	elliptique	elliptisch	elíptica	Emergo, Pallas	2
		broad elliptic	elliptique large	breit elliptisch	elíptica ancha	Galaxy, Prizenwinner Stringless	3
		kidney shaped	réniforme	nierenförmig	reniforme	Armstrong, Flame, Red Rum	4
26. **(+)**	**(b)**	**Seed: shape of median cross-section**	**Graine: forme de la section transversale médiane**	**Samen: Form des mittleren Querschnitts**	**Semilla: forma de la sección central en perspectiva transversal**		
		flat	aplatie	flach	plana	Desiree	1
		elliptic	elliptique	elliptisch	elíptica	Armstrong, Flame, Red Rum	2
		circular	circulaire	rund	circular		3
27. **(*)**	**(b)**	**Seed: number of colors**	**Graine: nombre de couleurs**	**Samen: Anzahl Farben**	**Semilla: número de colores**		
		one	une	eine	uno	Emergo, Riley	1
		two	deux	zwei	dos	Crusader, Enorma	2
28. **(*)**	**(b)**	**Seed: main color**	**Graine: couleur principale**	**Samen: Hauptfarbe**	**Semilla: color principal**		
		white	blanc	weiß	blanco	Desiree, Emergo	1
		light tan	brun clair	hellbraun	pardo-amarillento claro	Melange, Painted Lady	2
		pinkish purple	pourpre rosâtre	blaßrosa purpur	púrpura rosado	Armstrong, Bonela, Sun Bright	3
		violet	violet	violett	violeta	Ivanhoe	4
		black	noir	schwarz	negro	Riley	5

		English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. (*)	**(b)**	**Varieties with seeds with more than one color only: Seed: secondary color**	**Variétés à graines de plusieurs couleurs seulement: Graine: couleur secondaire**	**Nur Sorten mit mehr als einer Farbe: Samen: sekundäre Farbe**	**Sólo variedades con semillas de más de un color: Semilla: color secundario**		
		brown	brun	braun	marrón	Painted Lady	1
		black	noir	schwarz	negro	Armstrong	2
30. (*) (+)	**(b)**	**Varieties with seeds with more than one color only: Seed: distribution of predominant secondary color**	**Variétés à graines de plusieurs couleurs seulement: Graine: répartition de la couleur secondaire prédominante**	**Nur Sorten mit mehr als einer Farbe: Samen: Verteilung der überwiegenden sekundären Farbe**	**Sólo variedades con semillas de más de un color: Semilla: distribución del color secundario predominante**		
		spotted	en taches	fleckig	manchado	Enorma, Prijswinner	1
		mottled	en marbrures	marmoriert	jaspeado	Crusader, Kelvedon Stringless	2
31.	**(b)**	**Varieties with seed: main color: white only: Seed: veining**	**Variétés à graines dont la couleur principale est le blanc seulement: Graine: veinure**	**Nur Sorten mit Samen: Hauptfarbe: weiß: Samen: Aderung**	**Sólo variedades con semilla: color principal: blanco: Semilla: venación**		
		weak	faible	gering	débil	Enorma	3
		medium	moyenne	mittel	media	Desiree	5
		strong	forte	stark	fuerte		
32.	**(b)**	**Seed: color of hilar ring**	**Graine: couleur du cerne hilaire**	**Samen: Farbe der Nabelumrandung**	**Semilla: color del anillo hilar**		
		same color as seed	même couleur que la graine	gleiche Farbe wie Samen	del mismo color que la semilla	Desiree	1
		different color to seed	différente de celle de la graine	andere Farbe als Samen	de distinto color que la semilla	Flame, Red Rum	2
33. (*)		**Time of flowering (50% of the plants with at least one flower)**	**Époque de floraison (50% des plantes avec au moins une fleur)**	**Zeitpunkt der Blüte (50% der Pflanzen mit mindestens einer Blüte)**	**Época de floración (50% de las plantas con al menos una flor)**		
		early	précoce	früh	temprana	Hestia, Red Rum	3
		medium	moyenne	mittel	media	Armstrong, Flame	5
		late	tardive	spät	tardía	Esparot, Sun Bright	7

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

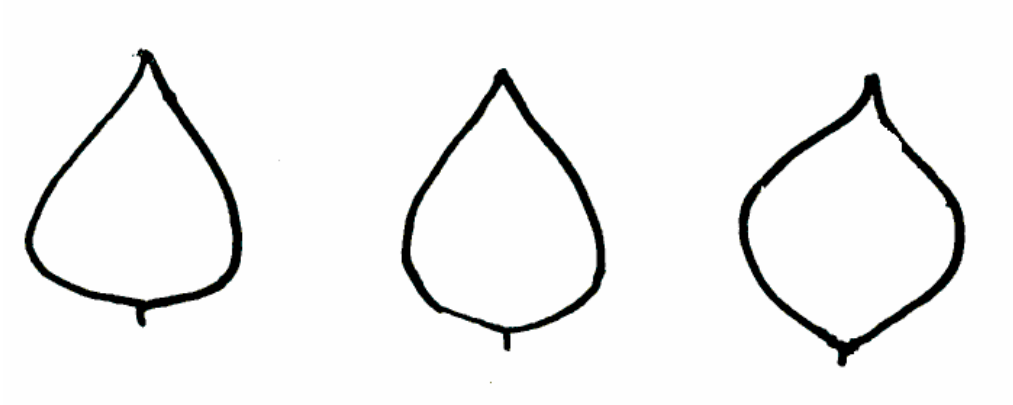
Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

(a) Pod: Observations on the pod should be made at fresh harvest maturity.

(b) Seed: Observations on the seed should be made at the mature dry stage on the harvested material.

8.2 Explanations for individual characteristics

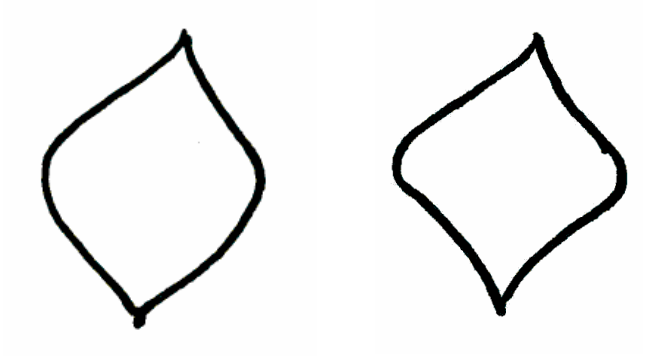
Ad. 10: Terminal leaflet: shape



1
triangular

2
triangular to circular

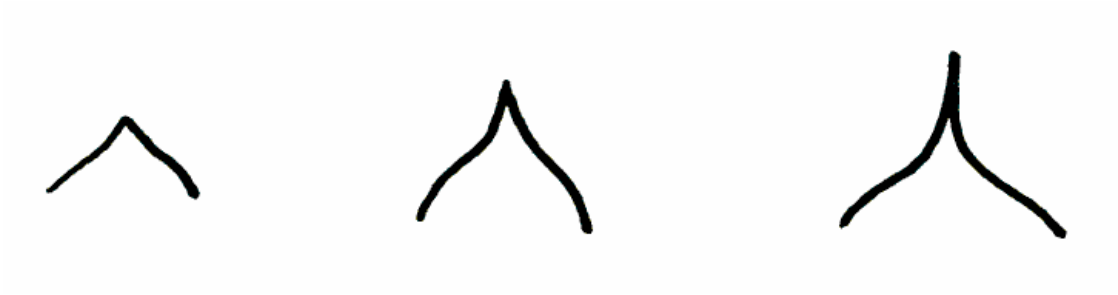
3
circular



4
circular to quadrangular

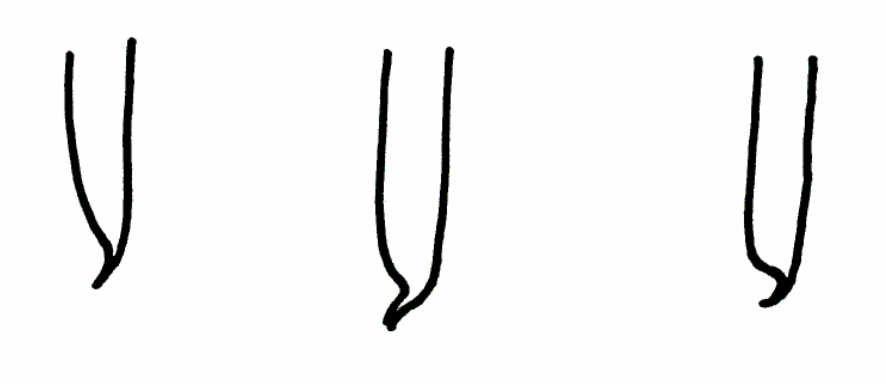
5
quadrangular

Ad. 11: Terminal leaflet: apex



3	5	7
short acuminate	medium acuminate	long acuminate

Ad. 20: Pod: shape of distal part (excluding beak)

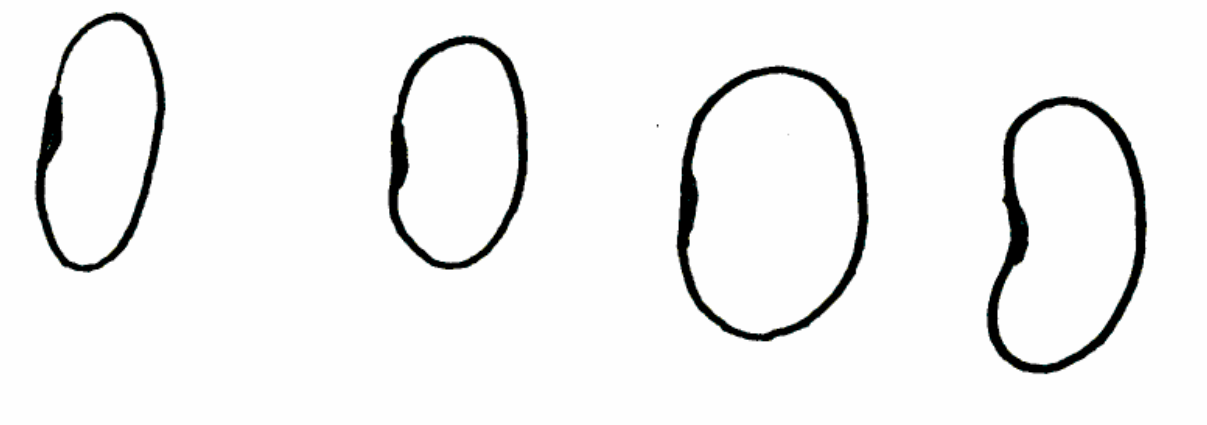


1	2	3
pointed	pointed to truncate	truncate

Ad. 22: Pod: curvature of beak

3	5	7
weak	medium	strong

Ad. 25: Seed: shape of median longitudinal section



1	2	3	4
narrow elliptic	elliptic	broad elliptic	kidney shaped

Ad. 26: Seed: shape of median cross-section

1	2	3
flat	elliptic	circular

Ad. 30: Seed: distribution of predominant secondary color

1	2
spotted	mottled

9. Literature

Bowring, J.D.C., 1970: "The identification of varieties of Runner Bean (*Phaseolus coccineus* L.)" J. Nat. inst. Agric. Botany 12, 46-56.

Hedrick, V.P., 1931: "Beans of New York" Vol I, Part II, Vegetables of New York.

Sneddon J.L. and Squibbs F.L., 1963: "Differences of seed stocks of runner beans" J. Nat. inst. Agric. Botany 9, 346-352.

Andeweg J.M. en van Steenbergen A., 1957: "Fieldtests with Dutch runner beans 1955-1956" Wageningen: Inst. Veredeling Tuinbouwgewassen. Mededelingen 115.

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 *Latin Name*	*Phaseolus coccineus* L.
1.2 Common Name	Runner Bean

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

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(please provide details)

4.2 Method of Propagating the Variety

(a) Self-pollination [ ]

(b) Cross-pollination
(i) population [ ]
(ii) synthetic variety [ ]

(c) Other [ ]
(please provide details)

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 (2)	**Plant: growth type**		
	dwarf	Pickwick	1[ ]
	climbing	Enorma	2[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

	Characteristics	Example Varieties	Note
5.2 (12)	**Flower: color of standard**		
	white	Desiree, Emergo	1[ ]
	pink	Riley	2[ ]
	red	Armstrong, Painted Lady, Streamline	3[ ]
5.3 (13)	**Flower: color of wing**		
	white	Desiree, Painted Lady	1[ ]
	pink	Riley	2[ ]
	red	Armstrong, Streamline	3[ ]
5.4 (17)	**Pod: suture strings**		
	absent	Armstrong, Emergo Stringless	1[ ]
	present	Enorma, Kelvedon Marvel	9[ ]
5.5 (28)	**Seed: main color**		
	white	Desiree, Emergo	1[ ]
	light tan	Melange, Painted Lady	2[ ]
	pinkish purple	Armstrong, Bonela, Sun Bright	3[ ]
	violet	Ivanhoe	4[ ]
	black	Riley	5[ ]
5.6 (29)	**<u>Varieties with seeds with more than one color only</u>: Seed: secondary color**		
	brown	Painted Lady	1[ ]
	black	Armstrong	2[ ]
5.7 (30)	**<u>Varieties with seeds with more than one color only</u>: Seed: distribution of predominant secondary color**		
	spotted	Enorma, Prijswinner	1[ ]
	mottled	Crusader, Kelvedon Stringless	2[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

6. Similar varieties and differences from these varieties

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)	*Pod: length*	*short*	*medium*

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 Special conditions for the examination of the variety

7.2.1 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

7.2.2 If yes, please give 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.

9. 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]