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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

COMMON VETCH

UPOV Code: VICIA_SAT

Vicia sativa L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Spain

to be considered by the

Enlarged Editorial Committee at its meeting
to be held in Geneva, on January 9 and 10, 2013

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Vicia sativa L.	Common vetch	Vesce commune	Saatwicke	Veza común

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 Test Guidelines should be read in conjunction with 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 *Vicia sativa* 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:

1 kg of seed.

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.

2.4 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 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. In this sense, the trial should be carried out with some physical support to ensure the correct training of the plant.

3.3.2 The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column of the Table of Characteristics. The stages of development denoted by each number are described in Chapter 8.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 200 plants, which should be divided between 2 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 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.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation 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

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual

plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

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 recommended sample size for the assessment of uniformity is indicated by the following key in the table of characteristics:

A sample size of 100 plants/parts of plants
B sample size of 200 plants

4.2.3 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 200 plants, 5 off-types are allowed. In the case of a sample size of 100 plants or parts of plants, 3 off-types plants are allowed.

4.2.4 For “A” characteristics, the assessment of uniformity can be done in 2 steps. In a first step, 20 plants or parts of plants are observed. If no off-types are observed, the variety is declared to be uniform. If more than 3 off-types are observed, the variety is declared not to be uniform. If 1 to 3 off-types are observed, an additional sample of 80 plants or parts of plants must be observed.

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 further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial 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) Time of beginning of flowering (characteristic 4)
(b) Stipule: anthocyanin coloration of nectaries (characteristic 9)
(c) Seed: ground color of testa (characteristic 18)
(d) Seed: brown ornamentation (characteristic 19)
(e) Seed: blue-black ornamentation (characteristic 21)
(f) Seed: color of cotyledons (characteristic 23)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

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

6.2.1 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.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

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 6.1.2
QL	Qualitative characteristic	– see Chapter 6.3
QN	Quantitative characteristic	– see Chapter 6.3
PQ	Pseudo-qualitative characteristic	– see Chapter 6.3
MG, MS, VG, VS		– see Chapter 4.1.5

A, B: See Chapter 4.2

0-92 See Explanations on the Table of Characteristics in Chapter 8.1
(+) See Explanations on the Table of Characteristics in Chapter 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. (*) (+)	**12 VG/ MS B**	**Seedling: ratio length/width of leaflet of second primary leaf**	**Plantule : rapport longueur/largeur de la foliole de la deuxième feuille primaire**	**Keimpflanze: Verhältnis Länge/Breite des Blättchens des zweiten Primärblattes**	**Plántula: relación longitud/anchura del foliolo de la segunda hoja primaria**		
QN		very low	très petit	sehr gering	muy baja		1
		low	petit	gering	baja	Ebena	3
		medium	moyen	mittel	media	Candy	5
		high	grand	hoch	alta	Prontivesa	7
		very high	très grand	sehr hoch	muy alta	Aneto	9
2.	**11-13 VG B**	**Seedling: anthocyanin coloration on the base of the stem**	**Plantule : pigmentation anthocyanique à la base de la tige**	**Keimpflanze: Anthocyanfärbung an der Basis des Stengels**	**Plántula: coloración antociánica de la base del tallo**		
QN		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Cobra	1
		weak	faible	gering	débil		3
		medium	moyenne	mittel	media	Ina, Prontivesa	5
		strong	forte	stark	fuerte	Nacre	7
		very strong	très forte	sehr stark	muy fuerte		9
3.	**51-59 VG B**	**Plant: intensity of green color of foliage**	**Plante: intensité de la couleur vert du feuillage**	**Pflanze: Intensität der Grünfärbung der Blätter**	**Planta: intensidad del color verde del follaje**		
QN		light	claire	hell	claro	Acisreina	1
		medium	moyenne	mittel	medio	Kwarta	3
		dark	foncée	dunkel	oscuro		5
4. (*) (+)	**63 MG B**	**Time of beginning of flowering**	**Epoque de début de floraison**	**Zeitpunkt des Blühbeginns**	**Época de comienzo de la floración**		
QN		very early	très précoce	sehr früh	muy temprana	Barbicos, Piedade	1
		early	précoce	früh	temprana	Labari	3
		medium	moyenne	mittel	media	Ina, Pepite, Rada	5
		late	tardive	spät	tardía	Kwarta	7
		very late	très tardive	sehr spät	muy tardía	Berninova, Jaga	9
5. (*) (+)	**60-69 VG B**	**Stem: hairiness of upper internodes**	**Tige: pilosité des entre-noeuds supérieurs**	**Stengel: Behaarung der obersten Internodien**	**Tallo: vellosidad de los entrenudos superiores**		
QN		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Neska	1
		weak	faible	gering	débil	Prontivesa	3
		medium	moyenne	mittel	media		5
		strong	forte	stark	fuerte	Candy, Kwarta	7
		very strong	très forte	sehr stark	muy fuerte	Berninova, Caravelle, Hanka	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	**60-69 VG B**	**Stem: anthocyanin coloration on leaf axil**	**Tige: pigmentation anthocyanique à l'aisselle des feuilles**	**Stengel: Anthocyanfärbung der Blattachsel**	**Tallo: coloración antociánica en la axila de las hojas**		
QN		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Acisreina, Fama, Kwarta, Pepite	1
		weak	faible	gering	débil	Candy, Caravelle	3
		medium	moyenne	mittel	media	Castilla, Rada, Trafic	5
		strong	forte	stark	fuerte	Miranda, Nacre	7
		very strong	très forte	sehr stark	muy fuerte		9
7. **(*)** **(+)**	**60-69 VG B**	**Leaf: shape of tip of leaflet**	**Feuille: forme de l'extrémité de la foliole**	**Blatt: Form der Spitze der Blattfieder**	**Hoja: forma del extremo del foliolo**		
QN		convex	convexe	konvex	convexa	Corail, Trafic	1
		straight	droite	gerade	recta	Aneto, Candy, Fama, Kwarta, Prontivesa	3
		concave	concave	konkav	cóncava	Nacre	5
8. **(+)**	**60-69 VG/ MS B**	**Leaf: width of leaflet**	**Feuille: largueur de la foliole**	**Blatt: Breite der Blattfieder**	**Hoja: anchura del foliolo**		
QN		narrow	étroite	schmal	estrecho	Prontivesa	3
		medium	moyenne	mittel	medio	Hanka, Libia, Pepite	5
		wide	large	breit	ancho	Acisreina	7
9. **(*)**	**60-69 VG B**	**Stipule: anthocyanin coloration of nectaries**	**Stipule: pigmentation anthocyanique des nectaires**	**Nebenblätter: Anthocyanfärbung der Nektarien**	**Estípula: coloración antociánica de los nectarios**		
QN		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Albaflor, Jade	1
		weak	faible	gering	débil	Alcaraz, Melissa, Prontivesa	3
		medium	moyenne	mittel	media	Aneto, Castilla	5
		strong	forte	stark	fuerte	Labari, Libia, Nacre	7
		very strong	très forte	sehr stark	muy fuerte		9
10. **(*)**	**60-65 VG B**	**Flower: color of standard**	**Fleur: couleur de l'étendard**	**Blüte: Farbe der Fahne**	**Flor: color del estandarte**		
PQ		white	blanc	weiss	blanco	Albaflor	1
		pink	rose	rosa	rosa		2
		light violet	violet clair	hellviolett	violeta claro	Miranda, Piedade	3
		medium violet	violet moyen	mittelviolett	violeta medio	Labari, Nacre	4
		dark violet	violet foncé	dunkelviolett	violeta oscuro	Castilla, Prontivesa	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. (*)	**71-79 VG B**	**Pod: hairiness**	**Gousse : pilosité**	**Hülse: Behaarung**	**Vaina: vellosidad**		
QN		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Amelia, Spinelle	1
		weak	faible	gering	débil	Alcaraz, Granit	3
		medium	moyenne	mittel	media	Barvicos, Miranda, Topaze	5
		strong	forte	stark	fuerte	Kwarta	7
		very strong	très forte	sehr stark	muy fuerte	Ina	9
12.	**71-79 VG/ MS B**	**Pod: length (excluding beak)**	**Gousse : longueur (bec exclu)**	**Hülse: Länge (ohne Spitze)**	**Vaina: longitud (excluyendo el pico)**		
QN		short	courte	kurz	corta	Acisreina, Berninova	3
		medium	moyenne	mittel	media	Ebena, Fama	5
		long	longue	lang	larga	Miranda, Prontivesa	7
13. (+)	**71-79 VG/ MS B**	**Pod: width**	**Gousse : largeur**	**Hülse: Breite**	**Vaina: anchura**		
QN		narrow	étroite	schmal	estrecha	Acisreina	3
		medium	moyenne	mittel	media	Ebena, Kwarta	5
		wide	large	breit	ancha	Labari, Prontivesa	7
14.	**71-79 VG B**	**Pod: length of beak**	**Gousse : longueur du bec**	**Hülse: Länge der Spitze**	**Vaina: longitud del pico**		
QN		short	courte	kurz	corto	Carole	1
		medium	moyenne	mittel	medio	Granit, Libia, Labari, Prontivesa	2
		long	longue	lang	largo	Amelia, Candy	3
15. (+)	**71-75 MS A**	**Pod: number of ovules**	**Gousse : nombre d'ovules**	**Hülse: Anzahl Samenanlagen**	**Vaina: número de óvulos**		
QN		few	faible	gering	bajo	Barvicos	3
		medium	moyen	mittel	medio	Ina, Labari	5
		many	élevé	hoch	alto	Albina, Ebena	7
16. (*) (+)	**89-99 MG**	**Seed: weight**	**Graine : poids**	**Korn: Gewicht**	**Semilla: peso**		
QN		very low	très faible	sehr niedrig	muy bajo	Berninova, Carole	1
		low	faible	niedrig	bajo	Ina	3
		medium	moyen	mittel	medio	Aneto, Rada	5
		high	élevé	hoch	alto	Castilla	7
		very high	très élevé	sehr hoch	muy alto	Labari, Prontivesa	9

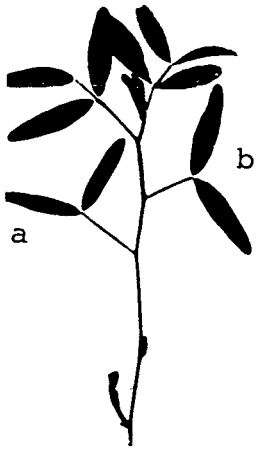
		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. (+)	**89-99 VG A**	**Seed: shape**	**Graine : forme**	**Korn: Form**	**Semilla: forma**		
PQ		circular	circulaire	kreisförmig	globular	Aneto, Ina	1
		slightly irregular	légèrement irrégulière	leicht unregelmäßig	ligeramente irregular	Acisreina	2
		irregular	irrégulière	unregelmäßig	irregular	Castilla	3
18. (*) (+)	**89-99 VG A**	**Seed: ground color of testa**	**Graine : couleur de fond du tégument**	**Korn: Grundfarbe der Samenschale**	**Semilla: color de fondo del tegumento**		
PQ		whitish	blanchâtre	weißlich	blanquecino	Ina	1
		greyish green	vert grisâtre	gräulich grün	verde grisáceo	Acisreina, Ebena, Nacre	2
		greyish brown	brun grisâtre	gräulich braun	marrón grisáceo	Candy	3
		brown	brun	braun	marrón	Kwarta	4
19. (*) (+)	**89-99 VG A**	**Seed: brown ornamentation**	**Graine : ornementations brunes**	**Korn: braune Ornamentierung**	**Semilla: ornamentación marrón**		
PQ		absent	absentes	fehlend	ausente	Albaflor, Albina, Fama, Ina	1
		spotted	mouchetées	gefleckt	en lunares	Cumbre	2
		blotched	tachées	fleckig	manchado	Candy, Pepite	3
		speckled	piquetées	gesprenkelt	graneado	Labari, Prontivesa	4
20. (*)	**89-99 VG A**	**Seed: area of brown ornamentation**	**Graine : surface des ornementations brunes**	**Korn: Fläche der braunen Ornamentierung**	**Semilla: superficie de la ornamentación marrón**		
QN		very small	très petite	sehr klein	muy pequeña		1
		small	petite	klein	pequeña	Achileas	3
		medium	moyenne	mittel	media	Neska	5
		large	grande	groß	grande	Acisreina, Prontivesa	7
		very large	très grande	sehr groß	muy grande		9
21. (*) (+)	**89-99 VG A**	**Seed: blue-black ornamentation**	**Graine : ornementations bleu-noir**	**Korn: blauschwarze Ornamentierung**	**Semilla: ornamentación azul-negra**		
PQ		absent	absentes	fehlend	ausente	Albaflor, Albina, Fama, Ina, Kwarta, Nacre	1
		dotted	finement mouchetées	gepunktet	punteado		2
		blotched	tachées	fleckig	manchado	Ebena, Castilla, Prontivesa	3
		speckled	piquetées	gesprenkelt	graneado	Acisreina, Pepite	4
22. (*)	**89-99 VG A**	**Seed: area of blue-black ornamentation**	**Graine : surface des ornementations bleu-noir**	**Korn: Fläche der blauschwarze Ornamentierung**	**Semilla: superficie de la ornamentación azul-negra**		
QN		very small	très petite	sehr klein	muy pequeña		1
		small	petite	klein	pequeña	Prontivesa	3
		medium	moyenne	mittel	media	Acisreina	5
		large	grande	groß	grande		7
		very large	très grande	sehr groß	muy grande	Ebena	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23. (*)	**89-99 VG A**	**Seed: color of cotyledons**	**Graine : couleur des cotylédons**	**Korn: Farbe der Keimblätter**	**Semilla: color de los cotiledones**		
QL		greyish brown	brun grisâtre	gräulich braun	marrón grisáceo	Acisreina, Castilla, Labari, Prontivesa	1
		orange	orange	orange	naranja	Aneto, Ina, Kwarta	2

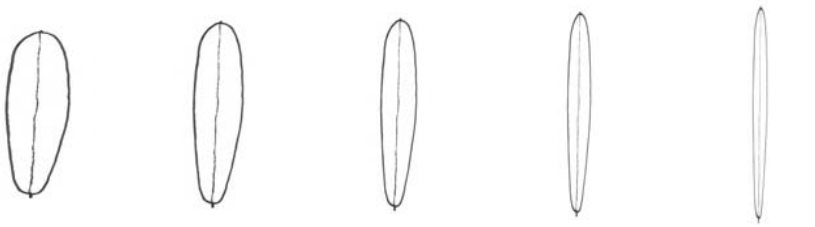
8. Explanations on the Table of Characteristics

8.1 Explanations for individual characteristics

Ad. 1: Seedling: ratio length/width of leaflet of second primary leaf



a: first primary leaf
b: second primary leaf



1	3	5	7	9
very low	low	medium	high	very high

Ad. 4: Time of beginning of flowering

Time of beginning of flowering is when 30% of plants have at least one flower open.

Ad. 5: Stem: hairiness of upper internodes

The observations should be made on upper third of plant.

Ad. 7: Leaf: shape of tip of leaflet

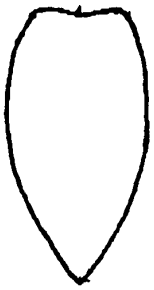
The observations should be made on middle third of plant.

1	3	5
convex	straight	concave

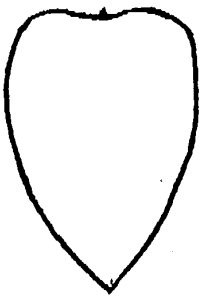
Ad. 8: Leaf: width of leaflet

The observations should be made on middle third of plant.

3
narrow



5
medium



7
wide

Ad. 13: Pod: width

The observations should be made on well-developed green pods; the width is assessed from suture to suture on unopened pods.

Ad. 15: Pod: number of ovules

The number of ovules is best recorded when the pods are flat. The number of ovules should be observed before seed development.

Ad. 16: Seed: weight

Seed weight should be measured on at least two samples of 100 seeds. Immature and infected seeds should be excluded.

Ad. 17: Seed: shape

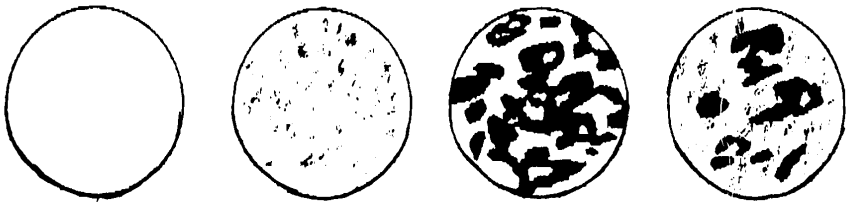
Seeds which grow nearest the peduncle end or the distal end of the pod (‘end seeds’) should be excluded before shape is assessed.

The observations should be made from an upper view on spread out seeds on a flat surface. Seeds should be placed with the line between hilum and radicle parallel to the surface.

Ad. 18: Seed: ground color of testa

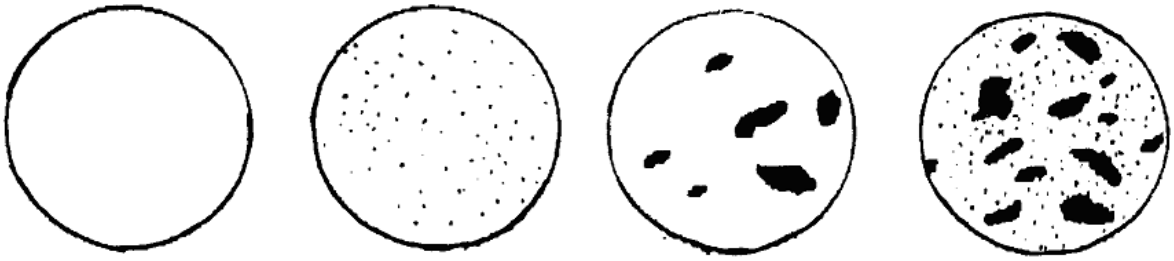
The ground color of the testa may be overshadowed by a very strong expression of the blue- black ornamentation (characteristic 22).

Ad. 19: Seed: brown ornamentation



1 absent | 2 spotted | 3 blotched | 4 speckled

Ad. 21: Seed: blue-black ornamentation



1 absent | 2 dotted | 3 blotched | 4 speckled

8.2 Phenological growth stages of common vetch adapted from BBCH of pea (Meier 1997)

Principal growth stage 0: Germination
00 - Dry seed
01 - Beginning of seed imbibition
03 - Seed imbibition complete
05 - Radicle emerged from seed
07 - Shoot breaking through seed coat
08 - Shoot growing towards soil surface; hypocotyl arch visible
09 - Emergence: shoot breaks through soil surface

Principal growth stage 1: Leaf development
10 - Pair of scale leaves visible
11 - First true leaf unfolded
12 - 2 leaves unfolded
13 - 3 leaves unfolded
1. - Stages continuous till . . .
19 - 9 or more leaves unfolded

Principal growth stage 3: Stem elongation (Main shoot)
30 - Beginning of stem elongation
31 - 1 visibly extended internode
32 - 2 visibly extended internodes
33 - 3 visibly extended internodes
3 . - Stages continuous till . . .
39 - 9 or more visibly extended internodes

Principal growth stage 5: Inflorescence emergence
51 - First flower buds visible outside leaves
55 - First separated flower buds visible outside leaves but still closed
59 - First petals visible, flowers still closed

Principal growth stage 6: Flowering
60 - First flowers open (sporadically within the population)
61 - Beginning of flowering: 10% of flowers open
62 - 20% of flowers open
63 - 30% of flowers open
64 - 40% of flowers open
65 - Full flowering: 50% of flowers open
67 - Flowering declining
69 - End of flowering

Principal growth stage 7: Development of fruit
71 - 10% of pods have reached typical length
72 - 20% of pods have reached typical length
73 - 30% of pods have reached typical length
74 - 40% of pods have reached typical length
75 - 50% of pods have reached typical length
76 - 60% of pods have reached typical length
77 - 70% of pods have reached typical length
79 - Pods have reached typical size (green ripe); seeds fully formed

Principal growth stage 8: Ripening of fruit and seed
81 - 10% of pods ripe, seeds final colour, dry and hard
82 - 20% of pods ripe, seeds final colour, dry and hard
83 - 30% of pods ripe, seeds final colour, dry and hard
84 - 40% of pods ripe, seeds final colour, dry and hard
85 - 50% of pods ripe, seeds final colour, dry and hard
86 - 60% of pods ripe, seeds final colour, dry and hard
87 - 70% of pods ripe, seeds final colour, dry and hard
88 - 80% of pods ripe, seeds final colour, dry and hard
89 - Fully ripe: all pods dry and brown. Seeds dry and hard (dry ripe)

Principal growth stage 9: Senescence
97 - Plants dead and dry
99 - Harvested product

9. Literature

Meier U., 1997: Growth stages of mono- and dicotyledonous plants: BBCH-Monograph. Federal Biological Research Center for Agriculture and Forestry (Ed.). Blackwell Wissenschafts-Verlag, Berlin, Wien.

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	*Vicia sativa* L.
1.2 Common name	Common vetch

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)

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

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

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

(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) 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:

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 (4)	**Time of beginning of flowering**		
	very early	Barbicos, Piedade	1 [ ]
	very early to early		2 [ ]
	early	Labari	3 [ ]
	early to medium		4 [ ]
	medium	Ina, Pepite, Rada	5 [ ]
	medium to late		6 [ ]
	late	Kwarta	7 [ ]
	late to very late		8 [ ]
	very late	Berninova, Jaga	9 [ ]
5.2 (9)	**Stipule: anthocyanin coloration of nectaries**		
	absent or very weak	Albaflor, Jade	1 [ ]
	very weak to weak		2 [ ]
	weak	Alcaraz, Melissa, Prontivesa	3 [ ]
	weak to medium		4 [ ]
	medium	Aneto, Castilla	5 [ ]
	medium to strong		6 [ ]
	strong	Labari, Libia, Nacre	7 [ ]
	strong to very strong		8 [ ]
	very strong		9 [ ]
5.3 (18)	**Seed: ground color of testa**		
	whitish	Ina	1 [ ]
	greyish green	Acisreina, Ebena, Nacre	2 [ ]
	greyish brown	Candy	3 [ ]
	brown	Kwarta	4 [ ]

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

	Characteristics	Example Varieties	Note
5.4 (19)	**Seed: brown ornamentation**		
	absent	Albaflor, Albina, Fama, Ina	1 [ ]
	spotted	Cumbre	2 [ ]
	blotched	Candy, Pepite	3 [ ]
	speckled	Labari, Prontivesa	4 [ ]
5.5 (21)	**Seed: blue-black ornamentation**		
	absent	Albaflor, Albina, Fama, Ina, Kwarta, Nacre	1 [ ]
	dotted		2 [ ]
	blotched	Ebena, Castilla, Prontivesa	3 [ ]
	speckled	Acisreina, Pepite	4 [ ]
5.6 (23)	**Seed: color of cotyledons**		
	greyish brown	Acisreina, Castilla, Labari, Prontivesa	1 [ ]
	orange	Aneto, Ina, Kwarta,	2 [ ]

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	*Seed: brown ornamentation*	*absent*	*diffuse alone*

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 for 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]