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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
 GENEVA

DRAFT

PEAS
 UPOV code: PISUM_SAT
Pisum sativum L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the United Kingdom

*to be considered by the
 Technical Working Party for Vegetables at its thirty-eighth session,
 to be held in Seoul, from June 7 to 11, 2004
 and*

*Technical Working Party for Agricultural Crops at its thirty-third session
 to be held in Poznan, Poland, from June 28 to July 2, 2004*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Pisum sativum</i> L.	Peas	Pois	Erbse	Guisante, Arvejo

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.

* 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.]

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.

Other associated UPOV documents:

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES	4
2. MATERIAL REQUIRED	7
3. METHOD OF EXAMINATION.....	8
3.1 Number of Growing Cycles	8
3.2 Testing Place	8
3.3 Conditions for Conducting the Examination.....	8
3.4 Test Design	8
3.5 Number of Plants / Parts of Plants to be Examined	9
3.6 Additional Tests.....	9
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY.....	9
4.1 Distinctness	9
4.2 Uniformity	9
4.3 Stability	10
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	10
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	11
6.1 Categories of Characteristics	11
6.2 States of Expression and Corresponding Notes	11
6.3 Types of Expression	11
6.4 Example Varieties.....	11
6.5 Legend	11
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES	13
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS.....	36
9. LITERATURE	39
10. TECHNICAL QUESTIONNAIRE.....	41

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Pisum sativum* L. .

General Issues to be considered under Section 1 (Summary by the Leading expert)

1. Should we split the guideline into Agricultural and Vegetable Peas?

I am not aware of any character in the current guideline which can clearly separate agricultural peas from vegetable peas. All characters could be used in both Agricultural and Vegetable varieties, even though some combinations may be unlikely. Obviously we want to avoid recording characteristics which have no relevance to the candidate, but in some types of Pea (e.g. semi-leafless protein), we need many characteristics for Distinctness.

UK: In my opinion, we cannot separate agricultural and vegetable peas on the basis of morphological characters.

CZ: We agree not to separate agricultural and vegetable peas

FR: We agree your proposition about agricultural and vegetable peas. For us, it's very difficult to split in two groups.

DE: We fully support that it is not possible to separate guidelines

HU: Hungary is in favour of not splitting the species Pisum into two TG.

ISF: Agree not to separate

JP: Same opinion

NL: We agree not to split

PL: We should not separate agricultural and vegetable peas

SK: Agree not to split

Consensus: Do not split Vegetable and Agricultural Peas

2. Should we split Peas into Cultivar Groups representing the main use types?

Varieties could be separated into Cultivar Groups using a key:

- Sugar Peas [Saccharatum Group](defined by thin entire, incomplete or absent pod parchment) including varieties with and without anthocyanin pigmentation.
- Forage Peas [Arvense Group](defined by the presence of anthocyanin) excluding coloured flowered Sugar types
- Semi-leafless Peas [Afila Group] (defined by absence of leaflets)
- Leafy Peas with Simple Starch Grains (excluding Sugar and Forage types)
- Leafy Peas with Compound Starch Grains (excluding Sugar and Forage Types)

Appropriate names are still required for all the Cultivar Groups.

Classification into Cultivar Groups will mean that the same uniformity standard would not be applied across all Groups. Within each Group we would expect the uniformity of character expression from variety to variety to be broadly similar, but the uniformity could be very different between Groups (e.g. Forage Pea and a Processing Pea).

CZ: We are against classification into Cultivar Groups on the basis of the main use types especially with respect to the assessment of uniformity. In our opinion the same uniformity standard should be applied across the whole species Pisum

- FR We could accept proposal to split in cultigroups, but propose more subdivisions
Sugar Peas: round pod/flat pod
Semi-leafless simple/ compound starch grain
Needs more discussion*
- DE There is no clear morphological separation between use types. We do not think that it is appropriate to have different uniformity levels in relation to the use. We do not want to split.*
- HU: Cultivar grouping is acceptable for our pea experts*
- ISF Preference is not to split*
- NL: Splitting eventually in Sugar Peas and the rest. For us it is not very useful to split into more than these groups*
- PL This a matter for discussion*
- SL Agree in general but in the last two groups: Leafy Peas with Simple Starch Grains and Leafy Peas with Compound Starch Grains we have not good experience because this characteristics were not observed precisely*
- UPOV: The UPOV Convention treats uniformity of a variety according to “the particular features of its propagation” and not, for example, according to its use. Therefore, different uniformity standards for different groups would need to be linked to types of propagation and not particular characteristics.*

This is not a discussion about classification on Use. The different cultivar groups proposed have different uses, but are clearly distinguished on morphological characteristics. Some have different breeding/maintenance methods which result in different levels of uniformity e.g. many forage peas are populations and are maintained as such; they have not been bred by the single seed descent method. Many old varieties are maintained in this way and will have a lower level of uniformity. Some varieties have been bred by combining good performing types (either populations or family lines) and then ‘rogued’ after F6 to remove obvious off-types - these varieties will never be as uniform as those arising from the single seed descent method, but may be more uniform than populations.

3. Should we separate characteristics on the basis of dependency?

Define sets of characteristics used depending on the type of material

- Core characteristics (record for all Groups)
plus appropriate characteristics from
- Characteristics dependent on the presence of anthocyanin
- Characteristics dependent on the absence of parchment
- Characteristics dependent on the presence of leaflets
- Characteristics dependent on the presence of simple starch grains
- Characteristics dependent on the presence of compound starch grains

If we split varieties into Groups, this proposal may have some merit, but I could live with characteristics listed in the same way as the current guideline (see next option).

CZ: Not to split

DE: Keep as it is

HU: agrees to the separation of the characteristics

ISF Do not split – dependency is already considered

NL: *Not very useful to do this. It gets more complicated and does not provide much extra information and clearness*

PL *This a matter for discussion*

SL *Yes, it is easier for an expert who tests different type of material to sort the characteristics and to work with the guideline*

There is not a clear consensus.

4. Should we retain the layout of characteristics as in the existing guideline?

All characteristics would be in one list with specified dependency or exclusion, where necessary.

Majority say no change.

CZ DE HU ISF NL PL: to keep it as it is

SL *see in 3 (Yes it is easier for an expert who tests different type of material to sort the characteristics and to work with the guideline)*

5. Additional characteristics

Should there be a list of characteristics which are not routinely used, but could, when required, be used for Distinctness (e.g. waxless types, characteristics which distinguish very few varieties etc.)

For:

CZ: *this list could be useful but we are afraid according to TGP 7 there is no possibility to include a special list of not routinely observed characteristics into the official guideline. Where this list would be stated?*

HU: *Such a list seems to be useful*

ISF *Additional characters can be added, but the large majority have to be measured routinely.*

Electrophoresis can be added here.

SL *Agree*

Against:

DE *We are not in favour to have any kind of additional list in the guidelines. All characteristics which are useful and necessary for routine establishment of distinctness should be included in the table of characteristics. In any case it is possible to use for a specific pair of varieties an appropriate additional characteristic which is not in the guidelines. It was discussed in UPOV to collect information about such cases on the UPOV website but up to now such approach is not yet established.*

NL: *not really necessary. There are not much of these characteristics*

PL *Do not agree*

UPOV *The General Introduction (TG/1/3: Section 4.8: Table) clarifies that the characteristics in the UPOV Test Guidelines do not have to be used by a particular authority, or equally can be used on a “non-routine” basis thus:*

Standard Test Guidelines Characteristics:

Characteristics that are accepted by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

The only characteristics which need to be examined by all authorities on a regular basis are the asterisked characteristics.

In the past, perhaps, there was a tendency to include only characteristics used by (all) authorities on a regular basis. With increasing membership of UPOV it is now recognized that there will be some characteristics which are not examined by all members of the Union, but which are appropriate characteristics for at least some members of the Union. Of course, this should be seen in the context of harmonizing characteristics as far as possible, which means that we should still strive, in general, to identify characteristics in the Test Guidelines which are used by all members of the Union.

The functions of “Additional characteristics” are referred to in the General Introduction (Section 4.8: Table) as:

- 1. To identify new characteristics, not included in the Test Guidelines, that have been used by members of the Union in the examination of DUS and which should be considered for inclusion in future Test Guidelines.*
- 2. To facilitate harmonization in the development and use of new characteristics and provide opportunity for expert review.*

This definition is intended to clarify that additional characteristics are those which UPOV is still considering from the point of view of whether they meet the criteria for inclusion in the Table of Characteristics. At the revision of the Test Guidelines these additional characteristics should, if they meet the criteria, be included as standard Test Guidelines characteristics or, if they do not meet the criteria, be deleted from the list of “additional characteristics”. Thus, they are not intended as a list of “non-routine” characteristics.

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:

1,000 g

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 *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.

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 at the end of Chapter 8.

(iii) The recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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

(iv) The recommended type of plot in which to observe the characteristic is indicated by the following key in the second column of the Table of Characteristics:

A: spaced plants

B: row plot

C: special test

3.4 *Test Design*

(iii) Each test should be designed to result in a total of at least 100 plants, which should be divided between two or more replicates.

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 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 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 100 plants, 3 off-types are 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 seed 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) Seed: shape of starch grain (characteristic 2)
- (b) Seed: color of cotyledon (characteristic 3)
- (c) Varieties with anthocyanin only: Seed: marbling of testa (characteristic 4)
- (d) Varieties with anthocyanin only: Seed: violet or pink spots on testa (characteristic 5)
- (e) Seed: black color of hilum (characteristic 6)
- (f) Plant: anthocyanin coloration (characteristic 9)
- (g) Leaf: leaflets (characteristic 19)
- (h) Stipule: type of development (characteristic 28)
- (i) Stipule: 'rabbit-eared' stipules (characteristic 29)
- (j) Stipule: flecking (characteristic 33)
- (k) Pod: parchment (characteristic 50)
- (l) Varieties with no or partial parchment only: Pod: thickened wall (characteristic 51)
- (m) Varieties without thickened pod wall only: Pod: shape of distal part (characteristic 54)
- (n) Pod: color (characteristic 55)
- (o) Pod: intensity of green color of immature seed (characteristic 61)

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 Chapter 6 (Section 6.1.2) |
| (QL) | Qualitative characteristic | – see Chapter 6 (Section 6.3) |
| (QN) | Quantitative characteristic | – see Chapter 6 (Section 6.3) |
| (PQ) | Pseudo-qualitative characteristic | – see Chapter 6 (Section 6.3) |

ASW 11

(a)-(b) See Explanations on the Table of Characteristics in Chapter 8.1

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

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<i>Proposal to modify: Dry seed characters</i>						
<i>1. HU allocate seed characters 1-8 to those starting from char. 62. All seed characters to be tested on harvested seed</i>						
<i>2. UK Add qualification? 1-8 submitted seed; 62-65 harvest seed</i>						
<i>CZ DE NL Not necessary – mentioned in Chapter Methods and Observation</i>						
1.	00 VG	Seed: shape	Graine: forme	Samen: Form		
PQ	(b)	spherical	sphérique	kugelförmig	Chipeau, Lisana	1
		ovoid	ovoïde	eiförmig	Birte, Solara	2
		cylindrical	cylindrique	zylindrisch	Span, Timo	3
		rhomboid	rhomboïde	rhomboid	Maro, Progreta	4
		triangular	triangulaire	dreieckig	Protor	5
		irregular	irrégulière	unregelmässig	Géant à fleur violette	6
2.	00 VG	Seed: shape of starch grain	Graine: forme du grain d'amidon	Samen: Form des Stärkekorns		
QL	(*) (+)	simple	lisse	einfach	Maro, Solara, Zorba	1
		compound	étoilé	zusammengesetzt	Avola, Polar	2
<i>UK Proposal to modify: Change to 'Seed: type of starch grains'. FR DE PL SK agree.</i>						
3.	00 VG	Seed: color of cotyledon	Graine: couleur des cotylédons	Samen: Farbe des Keimblatts		
QL	(b)	green	verts	grün	Avola, Solara	1
		yellow	jaunes	gelb	Birte, Nadja	2
<i>UK Proposal to modify: Add an new state: 'orange' with note '3' Example variety 'Oliver'. Add an explanation. FR DE NL PL SK agree.</i>						
<i>CZ Sometimes yellow color of cotyledon has tendency to become orange after storage (see Photograph of 'MENHIR')</i>						
4.	00 VG	Varieties with anthocyanin only	Variétés avec anthocyanine seulement:	Nur Sorten mit Anthocyan:		
QL	(*)	Seed: marbling of testa	Graine: marbrure des téguments	Samen: Marmorierung der Samenschale		
	(b)	absent	absente	fehlend	Nadja	1
		present	présente	vorhanden	Tombola	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. (*)	00 VG <u>Varieties with anthocyanin only:</u> Seed: violet or pink spots on testa	<u>Variétés avec anthocvane seulement:</u> Graine: taches violettes ou roses sur les téguments	<u>Nur Sorten mit Anthocyan:</u> Samen: violette oder rosa Punktierung auf der Samenschale			
QL	(b) absent	absentes	fehlend		Nadja, Tombola	1
	faint	faibles	gering		Assas, Susan	2
	intense	intenses	intensiv		Arvika, Livia	3
6. (*)	00 VG Seed: black color of hilum	Graine: couleur noire du hile	Samen: schwarze Nabelfarbe			
QL	(b) absent	absente	fehlend		Avola, Nadja	1
	present	présente	vorhanden		Nofila, Poneka	9

UK Proposal to modify: Change to 'Seed: hilum color' with states 'black 1 not black 2'

– *FR NL SK agree*

– *DE PL Prefer to keep because better in accordance with field and broad bean*

7.	00 VG <u>Varieties with anthocyanin only:</u> Seed: color of testa	<u>Variétés avec anthocvane seulement:</u> Graine: couleur du tégument	<u>Nur Sorten mit Anthocyan:</u> Samen: Farbe der Samenschale			
QL/PQ?	(b) reddish brown	brun rougeâtre	rötlichbraun		Golf, Rosakrone	1
	brown	brun	braun		Poneka	2
	brownish green	vert brunâtre	bräunlichgrün		Lisa, Susan	3

UK Proposal to delete: Not very useful? States 1 and 2 reflect flower colour (char. 38)

• *FR NL agree to delete*

• *DE Keep – good differentiation between varieties, no clear correlation to flower color*

PL No. It is important for varieties with anthocyanin pigmentation

8. (+)	00 VG <u>Varieties with unwrinkled seed and simple starch grains only:</u> Seed: dimpled cotyledons	<u>Variétés avec graines sans rides et avec grains d'amidon lisses seulement:</u> Graine: fossettes sur les cotylédons	<u>Nur Sorten mit Samen ohne Schrumpfung und mit einfachen Stärkekörnern:</u> Samen: Grübchen des Keimblatts			
QL	(b) absent	absentes	fehlend		Birte, Solara	1
	present	présentes	vorhanden		Maro, Progreta	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9. 00 - 320 VG	Plant: anthocyanin coloration	Plante: pigmentation anthocyanique	Pflanze: Anthocyanfärbung			
QL	absent	absente	fehlend		Avola, Solara	1
	present	présente	vorhanden		Nadja, Rosakrone	9
10. 218 MG/ (+) VC	Plant: height	Plante: hauteur	Pflanze: Höhe			
QN	very short	très petite	sehr niedrig		Elma	1
	short	petite	niedrig		Birte, Mini	
	medium	moyenne	mittel		Lord Chancellor, Minor	5
	tall	grande	hoch		Blauwschokker, Livia	7
	very tall	très grande	sehr hoch		Enka	9
<i><u>UK Proposal to modify: add qualification 'at 30% flowering'</u></i>						
• <i>NL PL SK agree; FR Prefer to keep at end of flowering period</i>						
<i><u>CZ Proposal to modify: Split character into vegetable non-sugar types and others</u></i>						
<i><u>DE Proposal to modify: Plant: height at time of flowering. In general the order of characteristics should be changed according to the time of observation i.e. move char. 10 after char 36.</u></i>						
<i><u>HU Proposal to modify: Record at Stage 240 green seed fully developed</u></i>						
11. 30- 199 VG	Stem: fasciation	Tige: fasciation	Stengel: Verbänderung			
QL	absent	absente	fehlend		Avola	1
	present	présente	vorhanden		Golf, Rosakrone	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
12. 240 (*) (+)	Stem: length	Tige: longueur	Stengel: Länge			
QN	very short	très petite	sehr kurz		Elma	1
	short	petite	kurz		Birte, Mini	3
	medium	moyenne	mittel		Lord Chancellor, Minor	5
	long	grande	lang		Blauwschokker, Livia	7
	very long	très grande	sehr lang		Enka	9
<i>UK Proposal to delete: too expensive to measure (replace by plot a single plot height measurement).</i>						
<ul style="list-style-type: none"> • CZ could agree, but if kept as it is, split character into vegetable non-sugar types and others • FR Do not agree • DE Keep because very valuable char. Not to be replaced by new char. • NL Only OK if new characteristic is added • PL No. Length is not the same as height • SK Within our trial designs and growing conditions – for the field types we have metal constructions – so there is no problem to measure and for the garden types our experts prefer single plot height measurements – so both is useful. 						
<i>UK Proposal to modify: If retained delete asterisk</i>						
13. 230 – 240 MS	Stem: number of nodes up to and including first fertile node	Tige: nombre de noeuds jusqu’au premier noeud fertile inclus	Stengel: Anzahl Knoten bis einschliesslich des ersten Blütenstandes			
QN	very few	très petit	sehr gering		Challis	1
	few	petit	gering		Miragreen, Waverking	3
	medium	moyen	mittel		Rampart, Susan	5
	many	grand	gross		Enka, Poneka	7
	very many	très grand	sehr gross		Regina	9
<i>FR Proposal to modify: To add an asterisk</i>						
<i>UK agrees</i>						
14. 30- 240 VG	<u>Varieties with anthocyanin only:</u> Stem: anthocyanin coloration of axil	<u>Variétés avec anthocyan seulement:</u> Tige: pigmentation anthocyanique au point d’insertion du stipule	<u>Nur Sorten mit Anthocyan:</u> Stengel: Anthocyanfärbung der Achsel			
QL	absent	absente	fehlend		Avola, Maro	1
	present	présente	vorhanden		Assas, Caroubel	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<i>UK Proposal to modify: UK Remove qualification which is not correct</i>						
<ul style="list-style-type: none"> FR NL SK agree DE Observation possible for all variteies, but discrimination only in the anthocyanin group. Keep qualification Same situation as for char. 4 & 5 						
<i>PL What is the reason for removing qualification?</i>						
15.	30- 240 VG	Varieties with anthocyanin only: Stem: type of anthocyanin coloration of axil	Variétés avec anthocyane seulement: Tige: type de la pigmentation anthocyanique au point d’insertion du stipule	Nur Sorten mit Anthocyan: Stengel: Typ der Anthocyanfärbung der Achsel		
QL	single ring	anneau simple	einfacher Ring		Assas, Nadja	1
	double ring	anneau double	doppelter Ring		Caroubel, Enka	2
<i>DE Proposal to modify: To read: Varieties with anthocyanin coloration of axil only: Stem: type of anthocyanin coloration of axil</i>						
16.	40- (* 240 VG	Foliage: color	Feuillage: couleur	Laub: Farbe		
PQ	(a)	yellow green	vert jaune	gelbgrün	Pilot	1
		green	vert	grün	Avola, Nadja	2
		blue green	vert bleu	blaugrün	Polar	3
<i>SK Proposal to modify: Add a state ‘grey green’</i>						
17.	40- (+ 240 VG	Foliage: intensity of color (excluding yellow-green and blue-green varieties)	Feuillage: intensité de la couleur (à l’exclusion des variétés à feuillage vert jaune et vert bleu)	Laub: Intensität der Farbe (gelbgrüne und blaugrüne Sorten ausgeschlossen)		
QN	(b)	light	claire	hell	Angelica, Enka	3
		medium	moyenne	mittel	Lisa, Rondo	5
		dark	foncée	dunkel	Waverex	7
<i>DE Proposal to modify: To read: Varieties with green foliage only: Foliage: intensity of color</i>						
18.	40- 240 VG	Foliage: greyish hue	Feuillage: teinte grise	Laub: grauer Anflug		
QL	(b)	absent	absente	fehlend	Lisa	1
		present	présente	vorhanden	Filby, Solara	9

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
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UK Proposal to delete: Linked with semi-leafless character? Little additional discrimination in UK

CZ FR DE NL PL SK agree

19.	20- (*) 240 VG	Leaf: leaflets	Feuille: folioles	Blatt: Blattfiedern		
QL	absent	absentes	fehlend		Rampart, Solara	1
	present	présentes	vorhanden		Avola, Nadja	9
20.	20- 240 VG	Leaf: waxiness of surface of upper leaflet	Feuille: pruine sur la surface de la foliole supérieure	Blatt: Wachsschicht der Oberfläche der obersten Blattfieder		
QL	absent	absente	fehlend		Citrina	1
	present	présente	vorhanden		Avola, Maro	9

UK Proposal to delete: We need to be able to use waxless characteristics when they occur, but are rarely used for varieties. Is there a case for a separate list of characteristics which could be used when required, rather than having a large table of characteristics?

- *F NL SK agree to deletion with inclusion in separate list*
- *CZ Included into the separate list if it is possible*
- *DE Keep because necessary to address off-types (no separate list)*

PL We observed that a few varieties have weaker waxiness of leaflet and stipule. in our opinion one of these characteristics could be deleted – propose char. 20

21.	30- 240 MS or VG	Leaf: average maximum number of leaflets	Feuille: nombre maximal moyen de folioles	Blatt: durchschnittliche maximale Anzahl von Blattfiedern		
QN	few	petit	gering		Jof	3
	medium	moyen	mittel		Dark Skin Perfection, Finale	5
	many	grand	gross		Triad	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
22.	216- Leaflet: size 226 MS/ VG	Foliole: taille	Blattfieder: Grösse			
QN	very small	très petite	sehr klein			1
	small	petite	klein		Mini	3
	medium	moyenne	mittel		Finale	5
	large	grande	gross		Alderman	7
	very large	très grande	sehr gross		Chieftain	9
<hr/>						
<i>DE Proposal to delete:</i>						
<ul style="list-style-type: none"> • DE fully assessed with char. 23 and 24 • NL Necessary in combination with 23 and 24? 						
<i>UK wants to retain: image measurement</i>						
23.	216- Leaflet: length 226 MS/ VG	Foliole: longueur	Blattfieder: Länge			
QN	short	courte	kurz		Polar, Resco	3
	medium	moyenne	mittel		Bohatyr, Fridgit	5
	long	longue	lang		Angelica, Chieftain	7
24.	216- Leaflet: width 226 MS/ VG	Foliole: largeur	Blattfieder: Breite			
QN	narrow	étroite	schmal		Douroy, Resco	3
	medium	moyenne	mittel		Fridgit, Irina	5
	broad	large	breit		Angelica, Chieftain	7
25.	216- Leaflet: distance 226 from widest point to MS/ base VG	Foliole: distance du point le plus large à la base	Blattfieder: Abstand zwischen der grössten Breite und der Basis			
QN	short	petite	klein		Atlas, Resco	3
	medium	moyenne	mittel		Jade, Maro	5
	long	grande	gross		Edula, Salome	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26.	30- 240	Leaflet: dentation	Foliolo: denture	Blattfieder: Zählung		
(+)	VG					
QL	absent	absente	fehlend		Allround, Amino	1
	present	présente	vorhanden		Carpo, Sugar Gem	9

CZ DE NL Proposal to modify:

- CZ Combine with 27. Sometimes there are plants within 'no dentation' which have one or two teeth
- DE Combine with 27 because not clear separation between note 1 and 9. Change char 27 note 2 from very weak to absent or very weak

NL Combine with 27. Difficult to define what is absolutely present

27.	30- 240	Leaflet: degree of dentation	Foliolo: intensité de la denture	Blattfieder: Stärke der Zählung		
(+)	VG					
QN	very weak	très faible	sehr gering		Progreta	1
	weak	faible	gering		Carpo, Edula	3
	medium	moyenne	mittel		Miracle	5
	strong	forte	stark		Cisca	7
	very strong	très forte	sehr stark		Sugar Gem	9
28.	30- 240	Stipule: type of development	Stipule: type de développement	Nebenblatt: Art der Entwicklung		
(*)	VG					
QL	rudimentary	rudimentaire	rudimentär		Filby	1
	well developed	bien développé	voll entwickelt		Avola, Progreta, Solara	2

UK Proposal to delete: Are there any varieties with rudimentary stipules in commerce?

29.	30- 240	Stipule: 'rabbit- eared' stipules	Stipule: stipules en forme d'oreilles de lapin	Nebenblatt: hasenohr artige Nebenblätter -		
(+)	VG					
QL	absent	absentes	fehlend		Birte, Nadja	1
	present	présentes	vorhanden		Progreta	9

DE Proposal to delete: Separation absent/present not clearly possible (not QL but QN). Observation of char. 32 (stipule width) is sufficient

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
30.	30- 240 VG	Stipule: waxiness of surface of upper stipule	Stipule: pruine sur la surface de la stipule supérieure	Nebenblatt: Wachsschicht auf der Oberseite des Nebenblatts		
QL	absent	absente	fehlend		Roi des Serpettes	1
	present	présente	vorhanden		Avola, Maro	9

UK Proposal to delete

We need to be able to use waxless characteristics when they occur, but are rarely used for varieties. Is there a case for a separate list of characteristics which could be used when required?

- FR NL SK agree to delete
- CZ Include into the separate list if it is possible
- DE Keep because necessary to address off-types (no separate list)

PL We observed that a few varieties have weaker waxiness of leaflet and stipule. in our opinion one of these characteristics could be deleted – propose char. 20

31.	216- 226	Stipule: length	Stipule: longueur	Nebenblatt: Länge		
(+)						
QN	MS/ VG	short	courte	kurz	Lentiroy, Resco	3
		medium	moyenne	mittel	Mars, Timo	5
		long	longue	lang	Alderman, Sugar Snap	7

CZ HU Proposal to delete

- CZ To delete and replace by new char. Stipule length from axil to tip and Stipule length from axil to base

HU replace by stipule size

32.	216- 226	Stipule: width	Stipule: largeur	Nebenblatt: Breite		
(+)	MS/ VC					
QN		narrow	étroite	schmal	Lentiroy, Resco	3
		medium	moyenne	mittel	Mars, Timo	5
		broad	large	breit	Erylis, Jade	7

CZ HU Proposal to delete

- CZ To delete and replace by new char. Stipule width of lobe below axil

HU replace by stipule size

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<u>UK Proposal to add new char.:</u> Stipule: size (Image measurement)	216 - 226	3 small 5 medium 7 large	UK Not always correlated with leaflet size <ul style="list-style-type: none"> FR More or less same as 31/32 DE Fully assesses with char. 31/32 (see our proposal to delete char. 22. We could think about relation length to width if any country has positive experience with that HU Not easy to implement; explanation is required. Length and width can be combined in Stipule size 1-5-7 NL Necessary in combination with 31 and 32? Could be OK if 31 and 32 are deleted in favour of next two characteristics SK Needs further explanation 		
<u>UK Proposal to add new char.:</u> Stipule: length from axil to tip (Image measurement)	216 - 226	3 short 5 medium 7 long	UK More discriminating than stipule length. <ul style="list-style-type: none"> FR More or less same as 31/32 DE No, see alternative proposal HU Not easy to implement; explanation is required NL Could be, no experience with this SK Needs further explanation 		
<u>UK Proposal to add new char.:</u> Stipule: length from axil to base (Image measurement)	216 - 226	3 short 5 medium 7 long	UK More discriminating than stipule length. <ul style="list-style-type: none"> FR More or less same as current 31/32 DE No, see alternative proposal NL Could be, no experience with this SK Needs further explanation 		
<u>DE Proposal to add new char.:</u> Stipule: length from axil to tip in relation to stipule length		3 short 5 medium 7 long	DE To be checked in respect of discrimination, stability and uniformity. No experience up to now		
<u>UK Proposal to add new char.:</u> Stipule: width of lobe below axil (Image measurement)	216 - 226	3 narrow 5 medium 7 broad	UK High discrimination; illustration to be added to explanations <ul style="list-style-type: none"> FR More or less same as current 31/32 DE No experience up to now. Explanation for assessment and prove for additional discriminative power necessary NL Could be, no experience with this SK Needs further explanation 		
33. 20- (* 240 (+ VG	Stipule: flecking	Stipule: macules	Nebenblatt: Marmorierung		
QL	absent	absentes	fehlend	Lisa, Orfac	1
	present	présentes	vorhanden	Avola, Maro	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
34.	20- 240 (+) VG	Stipule: maximum density of flecking	Stipule: densité maximale des macules	Nebenblatt: maximale Dichte der Marmorierung		
QN	very sparse	très lâche	sehr locker		Progreta, Resco	1
	sparse	lâche	locker		Allround, Finale	3
	medium	moyenne	mittel		Mars, Sentinel	5
	dense	dense	dicht		Avola, Roi de Carouby	7
	very dense	très dense	sehr dicht			9
35.	216- 226 (+) MS/ VG	<u>Varieties without leaflets only:</u> Petiole: length (from axil to the first tendril)	<u>Variétés sans folioles seulement:</u> Pétiole: longueur (de l'aisselle à la première vrille)	<u>Nur Sorten ohne Blattfiedern:</u> Blattstiel: Länge (von der Blattachsel zur ersten Ranke)		
QN	short	court	kurz		Esa, Rampart	3
	medium	moyen	mittel		Sentinel, Solara	5
	long	long	lang		Dryden	7
<i>UK Proposal to modify: Delete qualification - record for all types; good discrimination</i>						
<ul style="list-style-type: none"> • FR PL SK agree • DE We have no experience of petiole length in varieties with leaflets. Data for discrimination to be provided • HU Explanation is needed 						
<i>NL OK, but not really necessary to record for all varieties</i>						
<i>FR Proposal to add new char.:</i>		<i>3 short</i>	<i>Choucas, Fredrio</i>			
<i>Petiole: total length (from axil to last tendril)</i>		<i>5 medium</i>	<i>Alambo, Alezan</i>			
		<i>7 long</i>	<i>Calao, Arosa</i>			
36.	214 MS/ (+) VG	Time of flowering	Epoque de floraison	Zeitpunkt der Blüte		
QN/ PQ?	very early	très précoce	sehr früh		Orfac	1
	early	précoce	früh		Span, Sprite	3
	medium	moyenne	mittel		Finale, Waverex	5
	late	tardive	spät		Atlas, Poneka	7
	very late	très tardive	sehr spät		Regina	9
<i>CZ Proposal to modify: Split character into vegetable non-sugar types and others</i>						

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
37. (*)	216- <u>Non-fasciated varieties only</u>: Plant: maximum number of flowers per node	<u>Variétés non-fasciées seulement</u>: Plante: nombre maximal de fleurs par noeud	<u>Nur nicht-verbänderte Sorten</u>: Pflanze: maximale Anzahl Blüten pro Knoten			
QN	one	une	einblütig		Elma, Sprite	1
	one to two	une à deux	ein- bis zwei-blütig			2
	two	deux	zwei-blütig		Birte, Maro	3
	two to three	deux à trois	zwei - bis drei-blütig			4
	three	trois	drei-blütig		Sentinel, Waverking	5
	three to four	trois à quatre	drei - bis vierblütig			6
	more than four	plus de quatre	mehr als vierblütig			7
38. (*)	216- <u>Varieties with anthocyanin only</u>: Flower: anthocyanin coloration of wing	<u>Variétés avec anthocyane seulement</u>: Fleur: pigmentation anthocyanique de l'aile	<u>Nur Sorten mit Antho-cyan</u>: Blüte: Anthocyan-färbung des Flügels			
PQ	pink blush	rose pâle	blassrosa		Golf	1
	pink	rose	rosa		Rosakrone	2
	reddish purple	pourpre rougeâtre	rötlich purpur		Assas	3
39.	216- <u>Reddish purple flowered varieties only</u>: Flower: intensity of reddish purple coloration of wing	<u>Variétés à fleurs pourpre rougeâtre seulement</u>: Fleur: intensité de la pigmentation rouge pourpre de l'aile	<u>Nur Sorten mit rötlich purpurner Blüte</u>: Blüte: Intensität der rötlich-purpurnen Färbung des Flügels			
QN	weak	faible	gering		Salome	3
	medium	moyenne	mittel		Susan	5
	strong	forte	stark		Assas	7

CZ HU Proposal to delete:

- CZ Reddish purple color itself is relatively dark color and it is difficult to assess intensity
- HU Not really used for discrimination

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
40.	216- Reddish purple 218 flowered varieties VG only: Flower: intensity of color of standard	Variétés à fleurs pourpre rougeâtre seulement: Fleur: intensité de la pigmentation antho- cyanique de l'étendard	Nur Sorten mit rötlich purpurner Blüte: Blüte: Intensität der Anthocyanfärbung der Fahne			
QN	weak	faible	gering		Parvus	3
	medium	moyenne	mittel		Arvika	5
	strong	forte	stark		Lisa	7

CZ HU Proposal to delete:

- CZ Reddish purple color itself is relatively dark color and it is difficult to assess intensity
- HU Not really used for discrimination

41.	216- Varieties without 218 anthocyanin only: (+) VG Flower: color of standard	Variétés sans antho- cyane seulement: Fleur: couleur de l'étendard	Nur Sorten ohne An- tho cyan: Blüte: Farbe der Fahne			
PQ	white	blanc	weiss		Belinda, Record	1
	white to cream	blanc à crème	weiss bis cremefarben		Maro, Sprite	2
	cream	crème	cremefarben		Orcado	3

CZ Proposal to modify: CZ To keep only 2 notes white 1 and cream 2; delete white to cream

42.	216- Flower: maximum 218 width of standard (+)	Fleur: largeur maximale de l'étendard	Blüte: maximale Breite der Fahne			
QN	MS/ VG narrow	étroite	schmal		Progreta	3
	medium	moyenne	mittel		Carpo, Imposant	5
	broad	large	breit		Pilot, Sugar Snap	7

CZ Proposal: Add some details to genetic and additional background, if possible

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
43.	216- Flower: shape of 218 base of standard VG	Fleur: forme de la base de l'étendard	Blüte: Form des Fahnen grunds -			
(+)						
QN	strongly raised	fortement cunéiforme	stark keilförmig			1
	raised	cunéiforme	keilförmig		Progreta, Salome	3
	level	droite	gerade		Atlas, Solara	5
	arched	arquée	zweilappig		Avola, Helka	7
	strongly arched	fortement arquée	stark zweilappig		Bohatyr	9
44.	216- Flower: intensity of 218 undulation of VG standard	Fleur: intensité de l'ondulation de l'étendard	Blüte: Intensität der Wellung der Fahne			
QN	absent or very weak	nulle ou très faible	fehlend oder sehr gering		Heron, Maxi	1
	weak	faible	gering		Accord, Micro	3
	medium	moyenne	mittel		Adamus, Alex	5
	strong	forte	stark		Frijaune, Koka	7
	very strong	très forte	sehr stark		Téléphone nain, Télévision	9
45.	216- Flower: width of 218 sepal MS/ VG	Fleur: largeur du sépale	Blüte: Breite des Kelchblatts			
QN	narrow	étroite	schmal		Abador	3
	medium	moyenne	mittel		Conservor	5
	broad	large	breit		Amino	7

UK Proposal to delete: too expensive to measure, difficult to score?

- *HU NL Agree*
- *CZ Keep it as it is*
- *FR Keep – recorded visual observation*
- *DE Not very useful for discrimination*
- *PL Is not possible to assess this characteristic only visual? We find differences between varieties towards this characteristic*
- *SK This characteristic has discriminating value, we propose not to measure just replace with visual bservation*

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
46.	212- 240 VG	Flower: shape of apex of upper sepal (at second flowering node)	Fleur: forme du sommet du sépale supérieur(au deuxième noeud florifère)	Blüte: Form der Spitze des oberen Kelchblatts(am zweiten blüentra- genden Knoten)		
QL	accuminate	acuminé	mit langer ausgezogener Spitze		Dawn	1
	pointed	pointu	zugespitzt		Kelvedon Wonder	2
	rounded	arrondi	abgerundet		Imperiala	3
47.	218- 224 (+) MS/ VG	Flower: length of peduncle from stem to first flower	Fleur: longueur du pédoncule de la tige à la première fleur	Blüte: Länge des Blütenstandstiels vom Trieb bis zur ersten Blüte		
QN	short	court	kurz		Atlas, Resco	3
	medium	moyen	mittel		Bohatyr, Maro	5
	long	long	lang		Avola, Sugar Snap	7
<i>UK Proposal to modify: Change to Pod characteristic at stages 235-245?</i>						
<ul style="list-style-type: none"> <i>CZ DE FR HU NL PL SK agree</i> <i>CZ We agree for practical reason – more time for observation at this stage</i> 						
<i>FR Proposal to add new char.:</i>						
			<i>flower or pod</i>	<i>3 short</i>	<i><15 mm</i>	<i>Atila, Alize</i>
				<i>5 medium</i>	<i>15- 25 mm</i>	<i>Access, Kirio</i>
				<i>7 long</i>	<i>> 25 mm</i>	<i>Alex, Aladin</i>
	<i>QN MS</i>					
<i>FR Proposal to add new char.:</i>						
			<i>flower or pod</i>	<i>3 short</i>	<i><5 mm</i>	<i>Cabro, Kirio</i>
				<i>5 medium</i>	<i>5- 10 mm</i>	<i>Rialto, Metaxa</i>
				<i>7 long</i>	<i>> 10 mm</i>	<i>Alezan. Calao</i>
	<i>QN MS</i>					
<i>FR Proposal to add new char.:</i>						
			<i>flower or pod</i>	<i>3 absent or few</i>		<i>Kirio, Fauvette</i>
				<i>5 medium</i>		<i>Delta, Duez</i>
				<i>7 many</i>		<i>Eiffel, Goelan</i>
	<i>QN or PQ MS</i>					
48.	240 (*) MS/ VG	Pod: length (as for 46)	Gousse: longueur (comme pour 46)	Hülse: Länge (wie unter 46)		
QN	(a) very short	très courte	sehr kurz		NFG Krupp Peluschke, Waverex	1
	short	courte	kurz		Driad, Solara	3
	medium	moyenne	mittel		Atlas, Jof	5
	long	longue	lang		Hurst Green Shaft, Protor	7
	very long	très longue	sehr lang		Roi de Carouby	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
49. 240 (*) (+)	MS/ VG	Pod: maximum width(as for 46)	Gousse: largeur maxi male (comme pour 46)	Hülse: maximale Breite(wie unter 46)		
QN	(a) very narrow	très étroite	sehr schmal		Waverex	1
	narrow	étroite	schmal		Arvika, Resco	3
	medium	moyenne	mittel		Nofila, Orfac	5
	broad	large	breit		Pilot, Reuzen suiker	7
	very broad	très large	sehr breit		Roi de Carouby	9

UK Proposal to modify: Delete 'maximum'.

- *DE NL SK agree*

UK Proposal to modify: split into 2 separate characters (49.1 and 49.2) for Sugar and non-Sugar types as range for non-Sugar types is too small compared to total range

- *DE Do not split character – we have note 2-7 in non-sugar types*

PL We think splitting into two separate characters is not a good idea

50. 310 (+)	Pod: parchment VG	Gousse: parchemin	Hülse: Pergament schicht			
QL	(a) absent	absent	fehlend		Orlex, Sugar Gem	1
	partially present	partiellement présent	teilweise vorhanden			2
	entirely present	entièrement présent	vollständig vorhanden		Avola, Solara	3

UK Proposal to modify: Combine states 1 and 2

51. 240 VG	<u>Varieties with no or</u> <u>partial parchment</u> only: Pod: thickened wall	<u>Variétés sans</u> <u>parchemin ou avec</u> <u>parchemin partiel</u> seulement: Gousse: paroi épaisse	<u>Nur Sorten mit</u> <u>fehlender oder</u> <u>teilweise</u> <u>vorhandener</u> <u>Pergamentschicht:</u> Hülse: verdickte Wand			
QL	(a) absent	absente	fehlend		Nofila, Reuzensuiker	1
	present	présente	vorhanden		Edula, Sugar Snap	9

UK: Proposal to add new char.:

235 - 240 1 C shaped

Explanation to be provided

Pod: type of concave curvature

2 J shaped

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
52. (*)(+)	240 VG Pod: degree of curvature	Gousse: intensité de la courbure	Hülse: Stärke der Krümmung			
QN (a)	absent or very weak	absente ou très faible	fehlend oder sehr gering		Finale, Maro	1
	weak	faible	gering		Esa, Span	3
	medium	moyenne	mittel		Audrey, Sentinel	5
	strong	forte	stark		Hurst Green Shaft	7
	very strong	très forte	sehr stark		Curlew, Edula	9
53. (*)(+)	240 VG Pod: type of curvature	Gousse: type de la courbure	Hülse: Typ der Krümmung			
QL (a)	concave	concave	konkav		Curlew, Edula	1
	convex	convexe	konvex			2

CZ/NL Propose to delete:

- CZ To delete whole characteristic or to add example variety for convex curvature (we have never met variety with convex curvature)
- NL We do not know varieties of state 2. If no example varieties can be given, delete characteristic

54. (*)(+)	240 VG <u>Varieties without thickened pod wall only</u>: Pod: shape of distal part	Variétés à gousse sans paroi épaisse seulement: Gousse: forme de la partie distale	Nur Sorten ohne verdickte Hülsenwand: Hülse: Form des Hülsenendes			
QL (a)	pointed	pointue	zugespitzt		Jof, Orfac	1
	blunt	tronquée	stumpf		Avola, Solara	2

UK: Proposal to add new char.:

235 - 240 1 above

Explanation to be provided

Pod: height of ovary compared to

2 same level

centre point of pod laid horizontally

3 below

UK: Proposal to add new char.:

235 - 240 1 above

Explanation to be provided

Pod: height of apex compared to centre point of pod

2 same level

laid horizontally

3 below

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
55. 240 (*) VG	Pod: color	Gousse: couleur	Hülse: Farbe			
PQ	(a) yellow	jaune	gelb		Orlex	1
	green	verte	grün		Avola, Solara	2
	blue-green	vert bleu	blaugrün		Miracle, Miragreen	3
	purple	pourpre	purpur		Blauwschokker	4
56. 240 VG	Pod: intensity of green color	Gousse: intensité de la couleur verte	Hülse: Intensität der grünen Farbe			
QN	(a) light	claire	hell		Solara	3
	medium	moyenne	mittel			5
	dark	foncée	dunkel		Kasino, Perfection	7

UK Proposal to modify: add Perfection for state 3 and amend Perfection to read Dark Skin Perfection for state 7

Duplicate expression of char. 61, though best expression may not be consistently expressed in one of 56 and 61.

57. 240-245 VG	<u>Varieties with no or partial parchment only: Pod: strings of suture</u>	<u>Variétés sans parchemin ou avec parchemin partiel seulement: Gousse: fils de la suture</u>	<u>Nur Sorten mit fehlender oder teilweise vorhandener Pergamentschicht: Hülse: Fäden der Naht</u>	:		
QL	(a) absent or rudimentary	absents ou rudimentaires	fehlend oder rudimentär		Nofila, Sugar Gem	1
	present	présents	vorhanden		Reuzensuiker, Sugar Snap	9

UK Proposal to modify: To read: Pod: suture strings; explanation should indicate correct temperature sensitive expression – younger pods without strings; strings appear 3-4 days later than normal if temperatures are over 20C. Strings in 'stringless' varieties are partial or rudimentary

- *DE NL PL agree*
- *HU The original should be kept*

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
58.	240- Varieties with 255 anthocyanin only: VG Pod: anthocyanin coloration of suture	Variétés avec anthocvane seulement: Gousse: pigmentation anthocyanique de la suture	Nur Sorten mit Anthocyan: Hülse: Anthocyanfärbung der Naht			
QL	(a) absent	absente	fehlend		Imposant	1
	present	présente	vorhanden		Lisa, Nadja	9
59.	240- Varieties with 255 anthocyanin only: VG Pod: spots of anthocyanin color- ation on outer wall	Variétés avec anthocvane seulement: Gousse: pigmentation anthocyanique en taches sur la paroi externe	Nur Sorten mit Anthocyan: Hülse: Antho- - cyanflecke auf der Aussenwand			
QL	(a) absent	absente	fehlend		Imposant, Lisa	1
	present	présente	vorhanden		Nadja, Roi de Carouby	9
60.	230- Pod: number of (* 240 ovules (+ MS	Gousse: nombre d'ovules	Hülse: Anzahl Samen- anlagen			
QN	(a) few	faible	gering		NFG Krupp Peluschke	3
	medium	moyen	mittel		Arvika, Birte	5
	many	élevé	gross		Dinos	7
61.	230- Pod: intensity of 240 green color of VG immature seed	Gousse: intensité de la couleur verte de la graine immature	Hülse: Intensität der grünen Farbe des unreifen Samens			
QN	(a) light	claire	hell		Perfection, Solara	3
	medium	moyenne	mittel			5
	dark	foncée	dunkel		Dark Skin Perfection, Kasino	7
<u>UK Proposal to add new char.:</u>		240	1 very short 3 short 5 medium 7 tall 9 very tall	<i>UK: cheaper replacement for stem length; measured as plot height (VG or MG) rather than MS</i>		
<i>Plant: height when green seed fully developed</i>				<ul style="list-style-type: none"> • CZ NL and PL could agree to new characteristic • FR Needs discussion • DE We are strongly against a change in char.12. An observation on the plot would be very imprecise because at that stage many varieties are at least partly lodging 		
<u>JP: Proposal to add new char.:</u>		235 - 240	3 small 5 medium 7 large	<i>Important characteristic for green pea</i>		
<i>Pod: size of immature seed</i>						

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
62.	320 MS/VC	Seed: time of maturity	Graine: époque de maturité	Samen: Zeitpunkt der Reife		
QN	(b)	very early	très précoce	sehr früh		1
		early	précoce	früh	Belinda, Bodil	3
		medium	moyenne	mittel	Finale, Livia	5
		late	tardive	spät	Minor	7
		very late	très tardive	sehr spät	NFG Krupp Peluschke	9

CZ Proposal to modify: Split character into vegetable non-sugar types and others

63.	320 VG	Seed: wrinkling of cotyledon	Graine: rides sur les cotylédons	Samen: Schrumpfung des Keimblatts		
QL	(b)	absent	absentes	fehlend	Maro, Solara	1
		present	présentes	vorhanden	Avola, Zorba	9

DE Proposal to modify: To be replaced by char. 8

- *UK Not the same character – ‘dimpling’ applies to Marrowfat types, wrinkling does not*

64.	320 VG	Seed: degree of wrinkling of cotyledon	Graine: intensité des rides sur les cotylédons	Samen: Stärke der Schrumpfung des Keimblatts		
QN	(b)	weak	faible	gering	Audry	3
		medium	moyenne	mittel	Mini	5
		strong	forte	stark	Avanta, Elma	7

UK Proposal to modify: Combine with 63 Seed: wrinkling of cotyledon?

- *CZ FR NL agree*
- *DE Proposed qualification: add Varieties with compound starch grains only*
- *SK To leave the old characteristic*

*UK Proposal to add new char.:
Seed: funicle*

320

1 not fused with seed

2 fused with seed

UK Only 1 variety ‘Bitenax’ - no longer in commerce. Is there a case for a separate list of characteristics which could be used when required?

- *CZ In the case of a separate list only*
- *DE Do not include (not necessary if there is no variety) Uniformity problems could be expected*
- *NL Not to add, too much detailed*
- *PL Char. and state not clear for us*

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
65.	320	Seed: weight	Graine: poids	Samen: Gewicht		
(*)	MG					
(+)						
QN	(b)	very small	très petit	sehr niedrig	Douroy	1
		small	petit	niedrig	Charger, Livia	3
		medium	moyen	mittel	Bondi, Edula	5
		large	élevé	hoch	Maro, Tombola	7
		very large	très élevé	sehr hoch	Imposant	9

UK Proposal to modify: Change states to 'very low 1' to 'very high 9'

FR DE NL SK agree

Proposal to modify: (for all disease characters 66-72)

1. Delete 'cv.' for all example varieties as the abbreviation is no longer accepted under international nomenclature. UK FR DE NL agree

2. Recording method: NL Our opinion all scored VS. One observes resistance/susceptibility on single plants.

The ratio susceptible/resistant gives the final observation (resistant, susceptible, segregating) for the variety.

66.	VG?	Resistance to	Résistance à	Resistenz gegen		
(+)		<u>Fusarium</u>	<u>Fusarium</u>	<u>Fusarium</u>		
		<u>oxysporum f. sp. pisi</u>	<u>oxysporum f. sp. pisi</u>	<u>oxysporum f. sp. pisi</u>		
	QL?					
66.1	Race 1	Race 1	Pathotyp 1			
	absent	absente	fehlend		JI 1365 ex cv, Little Marvel	1
	present	présente	vorhanden		JI 1362 ex cv. Dark Skin Perfection	9
66.2	Race 2	Race 2	Pathotyp 2			
	absent	absente	fehlend		JI 1363 ex WSU 28	1
	present	présente	vorhanden		JI 1364 ex WSU 23	9
66.3	Race 5	Race 5	Pathotyp 5			
	absent	absente	fehlend		JI 1365 ex cv. Little Marvel	1
	present	présente	vorhanden		JI 1364 ex WSU 23	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
66.4	Race 6	Race 6	Pathotyp 6			
	absent	absente	fehlend		JI 1365 ex cv. Little Marvel	
	present	présente	vorhanden		JI 1363 ex WSU 28	
67.	VG	Resistance to	Résistance à	Resistenz gegen		
(+)		<u>Erysiphe pisi</u> Syd	<u>Erysiphe pisi</u> Syd.	<u>Erysiphe pisi</u> Syd.		
QL?	absent	absente	fehlend		JI 502 ex cv. Rondo	1
	present	présente	vorhanden		JI 1559 ex Mexique 4	9
68.	VG?	Resistance to	Résistance à	Resistenz gegen		
(+)		<u>Ascochyta pisi</u>, Race C	<u>Ascochyta pisi</u>, race C	<u>Ascochyta pisi</u>, Pathotyp C		
QL?	absent	absente	fehlend		JI 394 ex cv. Kelvedon Wonder	1
	present	présente	vorhanden		JI 502 ex cv. Rondo	9
69.	VG?	Resistance to	Résistance à	Resistenz gegen		
(+)		<u>Pseudomonas</u> <u>syringae pv. pisi</u>	<u>Pseudomonas</u> <u>syringae pv. pisi</u>	<u>Pseudomonas</u> <u>syringae pv. pisi</u>		
QL?						
69.1	Pathovar 2	Pathotype 2	Pathotyp 2			
	absent	absente	fehlend		JI 2430 ex cv. Kelvedon Wonder	1
	present	présente	vorhanden		JI 2431 ex cv. Early Onward	9
69.2	Pathovar 4	Pathotype 4	Pathotyp 4			
	absent	absente	fehlend		JI 2431 ex cv. Early Onward	1
	present	présente	vorhanden		JI 2439 ex cv. Fortune	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
70. VG?	Resistance to Seed-borne Mosaic Virus (SbmV), Strain P1	Résistance au virus de la mosaïque transmis par les semences (SbmV), race P1	Resistenz gegen Saatgutübertragenes Blattrollmosaikvirus (SbmV), Pathotyp P1			
(+)						
QL?	absent	absente	fehlend		JI 363 ex cv. Lincoln	1
	present	présente	vorhanden		JI 968 ex WBH 1779	9
71. VG?	Resistance to Bean Yellow Mosaic Virus (BYMV)	Résistance au virus de la mosaïque jaune du Haricot (BYMV)	Resistenz gegen Gelbes Bohnenmosaikvirus (BYMV)			
(+)						
QL?	absent	absente	fehlend		JI 502 ex cv. Rondo	1
	present	présente	vorhanden		JI 394 ex cv. Kelvedon Wonder	9
72. VG?	Resistance to Pea Enation Mosaic Virus (PEMV)	Résistance au virus enation de la mosaïque du Pois (PEMV)	Resistenz gegen Scharfes Adermosaik (PEMV)			
(+)						
QL?	absent	absente	fehlend		ex cv. Dark Skin Perfection	1
	present	présente	vorhanden		ex cv. Perfected Freezer 60	9

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) Foliage and pod: Unless otherwise indicated, all observations on the foliage and the pod should be made before green harvest maturity.
- (b) Seed: All observations on the seed should be made on dry seed and, with the exception of characteristics 2 and 9, on seed harvested on the plots.

8.2 Explanations for individual characteristics

[Still to be prepared]

Ad.65: Seed: weight

The seed weight should be measured on 2 samples of 100 seeds.

KEY FOR THE GROWTH STAGES
 CLE POUR LES STADES DE CROISSANCE
 SCHLUESSEL FUER DIE ENTWICKLUNGSSTADIEN

Key Clé Schlüssel	General Description	Description générale	Allgemeine Beschreibung
0	<u>Germination</u>	<u>Germination</u>	<u>Keimung</u>
00	Dry seed	Graine sèche	Trockenkorn
10	<u>Seedling growth</u>	<u>Croissance de la plantule</u>	<u>Wachstum des Keimlings</u>
16	Young seedling with first scale leaf developed	Jeune plantule avec première feuille à écailles développée	Junger Keimling mit ersten entwickelten Schuppenblättern
18	Young seedling with second scale leaf developed	Jeune plantule avec deuxième feuille à écailles développée	Junger Keimling mit zweiten entwickelten Schuppenblättern
20	First pair of stipules at the third node fully opened	Première paire de stipules au niveau du troisième noeud complètement ouverte	Erstes Paar Nebenblätter am dritten Knoten voll geöffnet
22	Stipules at the fourth node fully opened	Stipules au niveau du quatrième noeud complètement ouverts	Nebenblätter am vierten Knoten voll geöffnet
25	Stipules at the fifth node fully opened	Stipules au niveau du cinquième noeud complètement ouverts	Nebenblätter am fünften Knoten voll geöffnet
28	Stipules at the sixth node fully opened	Stipules au niveau du sixième noeud complètement ouverts	Nebenblätter am sechsten Knoten voll geöffnet
30	<u>Vegetative growth</u>	<u>Croissance végétative</u>	<u>Vegetatives Wachstum</u>
31	Stipules at the seventh node fully opened	Stipules au niveau du septième noeud complètement ouverts	Nebenblätter am siebenten Knoten voll geöffnet
34	Stipules at the eighth node fully opened	Stipules au niveau du huitième noeud complètement ouverts	Nebenblätter am achten Knoten voll geöffnet
40	Stipules at the tenth node fully opened	Stipules au niveau du dixième noeud complètement ouverts	Nebenblätter am zehnten Knoten voll geöffnet
x	Stipules at the Nth node fully opened	Stipules au niveau du N-ième noeud complètement ouverts	Nebenblätter am N-ten Knoten voll geöffnet
200	<u>Reproductive stage</u>	<u>Stade de reproduction</u>	<u>Generatives Stadium</u>
200	Initiation of first flower	Apparition de la première fleur	Beginn der ersten Blüte
206	Development of first flower bud enclosed in stipules	Développement de la première fleur, mais à l'intérieur des stipules	Entwicklung der ersten in Nebenblätter eingeschlossenen Blütenknospe
208	Development and sometimes elongation of peduncle	Développement et parfois allongement du pédoncule	Entwicklung und manchmal Verlängerung des Blütenstandstiels

Key Clé Schlüssel	General Description	Description générale	Allgemeine Beschreibung
210	Emergence of first flower bud from stipules	Apparition du premier bourgeon à fleurs hors des stipules	Erscheinen der ersten Blütenknospe aus den Nebenblättern
212	Emergence of standards from the calyx	Apparition des étendards hors du calice	Erscheinen der Fahne aus dem Kelch
214	Opening of the standards and emergence of the wings	Ouverture des étendards et apparition des ailes	Oeffnen der Fahne und Erscheinen der Flügel
216	Slight opening of the wings to show the keel	Légère ouverture des ailes découvrant la carène	Leichtes Oeffnen der Flügel und Erscheinen des Kieles
218	Standards usually fully opened	Etendards généralement complètement ouverts	Fahnen normalerweise voll geöffnet
220	Standards beginning to crumple at the margins	Etendards commençant à se friper sur les bords	Fahnen beginnen am Rand zu kräuseln
222	Standards and wings showing signs of withering	Etendards et ailes présentant des signes de flétrissure	Fahnen und Flügel weisen Zeichen des Welkens auf
224	Emergence of the first flat pod	Apparition de la première gousse aplatie	Erscheinen der ersten flachen Hülse
226	Elongation of the flat pod with clearly visible ovules	Allongement de la gousse aplatie avec des ovules nettement visibles	Verlängerung der flachen Hülse mit deutlich sichtbaren Samenanlagen
230	Swelling of the ovules and slight swelling of the pod wall	Gonflement des ovules et léger renflement de la paroi de la gousse	Schwellen der Samenanlagen und leichtes Schwellen der Hülsenwand
235	Green seed rounded becoming slightly firm; pods almost fully swollen or developed	Graine verte arrondie devenant légèrement ferme; gousses presque entièrement formées ou développées	Grüner rundlicher Samen wird leicht fest; Hülse fast vollkommen geschwollen oder entwickelt
240	Green seed firm, becoming starchy; pods fully developed or swollen	Graine verte ferme, devenant amylacée; gousses pleinement développées ou gonflées	Grüner Samen fest; wird leicht stärkehaltig; Hülsen voll entwickelt oder geschwollen
245	Green seed becoming pale, testas tough; pod beginning to lose color	Graine verte devenant pâle, téguements épais; gousse commençant à se décolorer	Grüner Samen wird blass, Samenschale fest; Hülse beginnt Farbe zu verlieren
250	Stem and lower foliage becoming yellowish	Tige et feuillage inférieur devenant jaunâtre	Stengel und niedrige Blätter werden gelblich
255	Seed drying and becoming yellowish green; pod becoming wrinkled	Dessèchement de la graine devenant vert jaunâtre; gousse commençant à se rider	Samen trocknet und wird gelblichgrün; Hülse wird schrumpfig
260	Lower foliage becoming dry at margins	Feuillage inférieur devenant sec sur les bords	Untere Blätter werden am Rand trocken
265	Seed yellowish green; pods wrinkled, pale green	Graine vert jaunâtre; gousses ridées vert pâle	Samen gelblichgrün; Hülsen schrumpfig, blassgrün

9. Literature

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* General reference texts

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

1.2 Common Name

ASW 14

(i)

1. Subject of the Technical Questionnaire (please indicate the relevant species):

1.1.1 Botanical name [species 1]

1.1.2 Common Name [species 1] []

1.2.1 Botanical name [species 2]

1.2.2 Common Name [species 2] []

etc.

(ii)

1. Subject of the Technical Questionnaire (please complete):

1.1 Botanical name

1.2 Common Name

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

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

#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

ASW 15

(i) 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)

.....

(ii) 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 Discovery and development []
(please state where and when discovered and how developed)

4.1.3 Other []
(please provide details)

.....

4.2 Method of propagating the variety (pro domo: see GN 31 and GN 32)

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

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

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

ASW 16

A representative color photograph of the variety should accompany 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 (b) is yes, please attach a copy of the authorization.

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 of where you have indicated “yes”.

.....

ASW 17

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes []

(please provide details as specified by the Authority)

No []

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]