



Animal &
Plant Health
Agency

United Kingdom National List Technical Protocol For Official Examination of Distinctness, Uniformity and Stability (DUS)

Field Beans

***Vicia faba* L.**

May 2020

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Section A – General Information

1 Purpose

1.1 This protocol sets out the procedures for conducting tests and assessments in relation to official examinations of DUS maintenance of reference stocks and verification of VCU submissions of varieties of field (Faba) beans entered for National List (NL) trials and Plant Breeders' Rights (PBR) tests.

1.2 This Protocol version applies to all new candidates submitted for test from 1 September 2018. Candidates already in test prior to this date will complete testing under UK Protocol version dated May 2017 and UPOV Technical Guideline TG/8/6

2 Scope

2.1 These procedures apply to all varieties of field beans. Special procedures and responsibilities for genetically modified (GM) Varieties are set out in sections A5 and A6.

2.2 Except where specified in this protocol or authorised by the animal and plant health agency (APHA) Varieties and Seeds, Only National List Candidates, Plant Breeders' Rights candidates, candidates for foreign authorities and the reference varieties may be incorporated in the DUS Tests.

3 Responsibilities

3.1 The growing tests and assessments in this protocol are carried out under the responsibility of the Secretary of State for Environment, Food and Rural Affairs, Scottish Ministers, The Welsh Ministers and The Minister for Agriculture, Environment and Rural Affairs in Northern Ireland (The National Authorities).

3.2 They are supervised, on behalf of the National Authorities, by officials of the Testing Authorities, that is APHA, The Scottish Government Agriculture and Rural Development Division (SGARD), The Department of Agriculture, Environment and Rural Affairs (DAERA) and the Welsh Government (WG).

3.3 This protocol is authorised by the plant variety and Seeds Committee (PVSC). It cannot be amended without their approval. Requests and suggestions for amendment of the protocol should be put in writing to APHA Varieties and Seeds, either directly or via the Test Centre.

3.4 The Procedures are Administered by:

Varieties and Seed
Animal and Plant Health Agency
Eastbrook
Shaftesbury Road
Cambridge
CB2 8DR

Tel. No: 02080 265993

Fax.No: 02084 152504

3.5 Test Centre

The DUS growing tests and assessments in this protocol are co-ordinated and carried out by:

NIAB
Barn 1 Park Farm
Villa Road
Impington
Cambridge
CB24 9NZ

Tel No: +44 (0)1223 342200

3.6 The Test Centre is responsible for providing the appropriate facilities.

4 Non-Compliance with the Protocol

4.1 Where the protocol uses the word “must” for any action then failure to carry out this action will result in non-compliance. Where non-compliance occurs or there are concerns regarding the validity of any data tests this must be reported to APHA. Where this protocol uses the word “should” for any action this is the method to be followed unless there are clear reasons which can be justified by the test centre as technically sound.

5 Responsibility for GM Releases

5.1 GM Release Consent Holders are responsible for GM Releases. All parties involved in DUS work operating under a GM Release Consent must adhere to the instructions of the Release Consent Holder where necessary, to comply with the relevant consent conditions. Where DUS Protocol non-compliance occurs, this must be reported to the consent holder and the Test Centre who will notify APHA.

6 Procedures for GM Varieties

6.1 Applicants intending to enter GM Candidates Must Consult APHA, about specific requirements under GM regulations well in advance of their application.

6.2 The Test Centre must ensure that no test or trial sites are planted with GM Candidates and/or varieties until APHA Has given the specific clearance.

7 Associated Documents

The following documents are associated with this protocol:

Reference	Title
Field Bean VCU Protocol	United Kingdom National List Trials: Protocol for Examining the Value For Cultivation and Use (VCU) of Field Beans
CPVO-TP 008/1	Protocol for Tests on Distinctness, Uniformity and Stability. <i>Vicia faba</i> L. var. <i>equina</i> St.-Amans; <i>Vicia faba</i> L. var. <i>minuta</i> (hort. Ex Alef.) Mansf. Field Bean; Tick Bean
UPOV TGP/1/3	General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of New Varieties of Plants
UPOV TG/8/7	Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability, Field Bean.
UPOV TGP/8/4	Trial Design and Techniques Used In the Examination of Distinctness, Uniformity and Stability.
UPOV TGP/9/2	Examining Distinctness.
UPOV TGP/10/2	Examining Uniformity.
Commission Directive	2003/90/EC as amended setting out implementing measures for the purposes of Article 7 of Council Directive 2002/53/EC (13 June 2002) as regards the characteristics to be covered as a minimum by the examination and the minimum conditions for examining certain varieties of agricultural plant species.
Council Regulation	2100/94/EC of 27 July 1994 on Community Plant Variety Rights.

Section B – Application Requirements

1 Purpose

1.1 The purpose of this section is to identify the specific requirements for National List and Plant Breeders' Rights applications.

2 Scope

2.1 These procedures apply to all applications.

3 Responsibilities

3.1 The applicants are responsible for ensuring that these procedures are complied with.

4 Receipt of Applications

4.1 The latest date for receipt of applications for acceptance of a variety onto the National List or for Plant Breeders' Rights, which is set administratively by APHA, is 31 August for winter beans and 30 November for spring beans. Applications received after this date may be considered for inclusion in the current year's tests and trials on a case-by-case basis.

4.2 The procedures for the submission of National List and Plant Breeders' Rights applications, Technical Questionnaires (TQ) and for payment of administration fees are set out on the GOV website at <https://www.gov.uk/national-lists-of-agricultural-and-vegetable-crops>.

4.3 Applicants should notify APHA of special DUS characteristics which may require additional examinations. These claims should, in addition, be noted in the TQ accompanying the application.

5 Receipt of seed

5.1 The latest date for receipt of seed is 1 October for winter beans and 31 January for spring beans and is set administratively by APHA. Seed submissions received after this date will normally be refused but may be considered for inclusion in the current year's tests on a case-by-case basis.

5.2 Instructions for the delivery of seed will be made available to applicants by APHA.

6 Seed quality requirements

6.1 The seed must satisfy the quality requirements for Basic Seed as laid down in Schedule 2 Part 3 of the Seeds Marketing Regulations 2011 and equivalent regulations made by Devolved Administrations.

6.2 The seed must not be chemically treated. Seed treatment, where appropriate, will be undertaken by the Test Centre. The chemicals applied and rates of application will be determined by the Test Centre.

7 Seed Quantity

7.1 Year 1

3kg or 6000 seeds

7.1.1 Winter Field Beans

One sample is submitted for both DUS and VCU purposes. The sample size will be indicated by the VCU Trial Operator in line with the Trial Procedures for Official Examination of Value for Cultivation and Use (VCU) for Field Beans, to include 3kg for DUS purposes.

7.1.2 Spring Field Beans

A separate 3kg DUS sample should be submitted.

7.2 Year 2 and Further Year Submissions

A sample of 300g of seed will be withdrawn from VCU submissions in Year 2 and any further years to authenticate the submission. Applicants should refer to the Trial Procedures for Official Examination of Value for Cultivation and Use (VCU) for Field Beans.

7.3 Shortfall in Seed Quantities

Where sufficient seed is unavailable in the first instance a further stock should be supplied in the following year which will be authenticated against the original submission. An additional charge may be applied.

8 Labelling requirements, including provisions for GM varieties

8.1 Applicants must clearly label their seed with the following information: -

- Applicant
- Breeder's Reference number or name
- Type of Seed (either "DUS" or "Combined submission of DUS and VCU")
- Quantity of seed

8.2 All packages of GM material must be clearly labelled as "GMO" or "Genetically Modified Organism".

Section C – Growing Test Procedures

1 Purpose

1.1 The purpose of this section is to provide details of the procedures used in the growing tests for DUS analysis.

2 Scope

2.1 These procedures apply to all varieties of field beans.

3 Responsibilities

3.1 The Test Centre is responsible for conducting these procedures.

3.2 The Test Centre will be responsible for ensuring that no material supplied to them is used for any other purpose than the conduct of these procedures or the release of reference samples for authorised purposes (See Section E 7).

4 Reference Varieties

4.1 The principles governing the selection of reference varieties are set out in Appendix 1.

4.2 Seed of reference varieties will be supplied by the Test Centre.

5 Design of Tests

5.1 The Test Centre is responsible for selecting a suitable site which should be on ground where previous cropping should ensure that risk of contamination of the tests and trials is negligible. This should be on ground that has not grown a seed-bearing bean and pea crops for two years or more.

5.2 As field beans have no vernalisation requirement, winter and spring field beans will normally be drilled as one trial in the spring to allow a more robust statistical analysis to be carried out.

5.3 Field husbandry should follow best local practice for all operations and particularly as regards cultivation, drilling, fertiliser and spray application, use of irrigation and control of pests and diseases.

5.4 The minimum duration of tests will normally be two independent growing cycles at one location. Additional growing cycles may be approved by the NLSC.

5.5 The tests are carried out using a randomised design, with a plot of each variety present in each replicate as follows:

No. of replicates	2 or more
No. of plants per variety	minimum of 160

5.6 From information given in the TQ the candidate variety may be grouped with varieties that are in the same classification for the following characters: Wing: melanin spot; Plant: growth type; and Seed: black pigmentation of hilum.

6 Records and Recording

6.1 All records and plot data should be in a form determined and validated by the Test Centre.

6.2 Characters, recording details and instructions are given in Section D. Any variant and abnormal plants or plants resulting from environmental influences, such as stress or disease, are excluded from the sample.

6.3 The characters indicated in Section D5.1 are recorded in two growing cycles and on all varieties.

6.4 At the end of the second year of test, candidate varieties that are not distinct may be grown in additional side-by-side comparison plots in a third year for which an additional charge will be made to the applicant.

6.5 If the Test Centre notices unusual or novel characters in candidate varieties, a record should be made including photographs if appropriate.

7 Communications with the Applicant

7.1 The Test Centre will notify the applicant or agent of any DUS problems at the earliest opportunity. All such notifications must be copied to APHA.

7.2 If confidentiality considerations allow, the applicant will be informed which variety is similar to the candidate and be invited to submit any information which may help to distinguish them.

7.3 If DUS problems arise, applicants will be invited to visit the DUS tests by arrangement so that the material can be examined, and discussions held with the Test Centre.

7.4 After each recording season the results are summarised and reported to the applicant and APHA by the Test Centre.

Section D – Summary of DUS Characteristics to be Assessed, Method of Assessment and Standards Applied

1 Purpose

1.1 The purpose of this section is to summarise the characteristics to be assessed.

2 Scope

2.1 This section summarises characteristics, states of expression, method of observation and standards required for DUS assessment.

3 Responsibilities

3.1 The Test Centre is responsible for co-ordinating the procedures in this summary.

4 Organisation

4.1 The minimum duration of tests to assess characteristics is normally two independent growing cycles conducted at one place under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examinations. A third growing cycle may be approved by the UK National List and Seeds Committee (NLSC) to establish distinctness.

5 DUS Characteristics to be Assessed

Routine Characteristics

5.1 The following table summarises the DUS characteristics to be routinely examined.

5.1.1 Note:

* a characteristic which must be examined according to Commission Directive, the CPVO protocol and/or UPOV Guidelines.

G a grouping characteristic.

Type of 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

5.1 Field Bean Characteristics Routinely Recorded in DUS Tests

CPV) TP/8/1	UPOV TG/8/7	Character	Material examined	Number of plants or sample size for assessment	Method of assessment and recording	States of expression	D Method and Minimum distance required	U Method
1	1	Foliage: intensity of green colour	Field grown plot	160 plants per variety	VG	1 = light 2 = light to medium 3 = medium 4 = medium to dark 5 = dark	2 states	2 @ 95% probability
2	2	Foliage: greyish hue of green colour	Field grown plot	160 plants per variety	VG	1 = absent 9 = present	1 state	2 @ 95% probability
3	3	Time of flowering: (50% of plants with at least one open flower)	Field grown plot	160 plants per variety	MS Number of days from drilling to 50% flowering	1 = very early 3 = early 5 = medium 7 = late 9 = very late	COYD @ 2%	COYU @ 0.1% See Section G 6.3
4	4 * G	Wing: melanin spot	Field grown plot	160 plants per variety	VG	1 = absent 9 = present	1 state	2 @ 95% probability
5	5 *	Wing: colour of melanin spot	Field grown plot	160 plants per variety	VG	1 = yellow 2 = brown 3 = black	1 state	2 @ 95% probability
6	6	Standard: extent of anthocyanin colouration (Only varieties with Wing: melanin spot: present)	Field grown plot	160 plants per variety	VG	1 = small 3 = medium 5 = large	2 states	2 @ 95% probability
7	7	Standard: intensity of anthocyanin colouration (Only varieties with Wing: melanin spot: present)	Field grown plot	160 plants per variety	VG	1 = weak 2 = medium 3 = strong	2 states	2 @ 95% probability
8	8	Flower: length	Field grown plot	60 plants per variety 1 flower per plant	MS	1 = very short 3 = short 5 = medium 7 = long 9 = very long	COYD @ 2%	COYU @ 0.1% See Section G 6.3
9	9	Standard: width	Field grown plot	60 plants per variety 1 flower per plant	MS	1 = narrow 2 = narrow to medium 3 = medium 4 = medium to broad 5 = broad	COYD @ 2%	COYU @ 0.1% See Section G 6.3

CPV) TP/8/1	UPOV TG/8/7	Character	Material examined	Number of plants or sample size for assessment	Method of assessment and recording	States of expression	D Method and Minimum distance required	U Method
10	10	Flower: ratio flower length/standard width	Field grown plot	60 plants per variety 1 flower per plant	MS	1 = low 3 = medium 5 = high	COYD @ 2%	COYU @ 0.1% See Section G 6.3
11	11 *	Leaflet: length (basal pair of leaflets at second flowering node)	Field grown plot	60 plants per variety 1 standard per plant	MS Image Analysis	1=very short 3 = short 5 = medium 7 = strong 9 = very strong	COYD @ 2%	COYU @ 0.1% See Section G 6.3
12	12 *	Leaflet: width	Field grown plot	60 plants per variety 1 leaflet per plant	MS Image Analysis	1 = very narrow 3 = narrow 5 = medium 7 = broad 9 = very broad	COYD @ 2%	COYU @ 0.1% See Section G 6.3
13	13	Stem: anthocyanin colouration (Only varieties with melanin spot)	Field grown plot	160 plants per variety	VG	1= absent or weak 3 = medium 5 = strong	2 states	2 @ 95% probability
14	14 * G	Plant: growth type	Field grown plot	160 plants per variety	VG	1 = determinate 2 = indeterminate	1 state	2 @ 95% probability
15	15 *	Plant: length	Field grown plot	60 plants per variety	MS	1 = very short 3 = short 5 = medium 7 = tall 9 = very long	COYD @ 2%	COYU @ 0.1% See Section G 6.3
16	16	Stem: number of nodes (up to and including first flowering node)	Field grown plot	60 plants per variety	MS	1 = very few 3 = few 5 = medium 7 = many 9 = very many	COYD @ 2%	COYU @ 0.1% See Section G 6.3
17	17 *	Pod: length (without beak)	Harvested pods	60 plants per variety 1 pod per plant	MS Image Analysis	1 = very short 3 = short 5 = medium 7 = long 9 = very long	COYD @ 2%	COYU @ 0.1% See Section G 6.3

CPV) TP/8/1	UPOV TG/8/7	Character	Material examined	Number of plants or sample size for assessment	Method of assessment and recording	States of expression	D Method and Minimum distance required	U Method
18	18	Pod: width (from suture to suture)	Harvested pods	60 plants per variety 1 pod per plant	MS Image Analysis	1 = very narrow 3 = narrow 5 = medium 7 = broad 9 = very broad	COYD @ 2%	COYU @ 0.1% See Section G 6.3
19	19	Pod: intensity of green colour	Field grown plot	160 plants per variety	VG	1 = light 2 = medium 3 = dark	2 states	2 @ 95% probability
20	20 *	Seed: shape	VG	60 plants 1 pod per plant 1 seed per pod	VS	1 = circular 2 = non-circular	1 state	2 @ 95% probability
21	21 *	Seed: colour of testa (immediately after harvest)	Harvested seed	60 plants 1 pod per plant 1 seed per pod	VS	1 = light yellow brown 2 = grey 3 = green 4 = black	1 state	2 @ 95% probability
22	22 * G	Seed: black pigmentation of hilum (see 5.2 below)	Harvested seed	60 plants 1 pod per plant 1 seed per pod	VS	1 = absent 2 = present	1 state	2 @ 95% probability
23	23 *	100 seed weight	Harvested seed	60 plants 1 pod per plant 1 seed per pod	MG	1 = very low 3 = low 5 = medium 7 = high 9 = very high	COYD @ 2%	See Section G 6.3 COYU @ 0.1% See Section G 6.3

5.2 Dry seed: black pigmentation of hilum

Certain varieties which show segregation for this character are admissible provided the breeders are able to ensure stability in the proportion of seeds with black hilum colour present and absent. However, in this “mixed” state the characteristic cannot be used to establish distinctness. For varieties that show this segregation the character should be described by the state “present” and the proportions of the two states of expression should be included in the variety description.

5.3 Approved Additional Characters

The following table summarises the additional characteristics which have been approved by the CPVO and can be examined at the request of the applicant where necessary to establish Distinctness. A fee may be charged for the examination of these characteristics as advised by APHA.

UPOV TG/4/7	Character	Material Examined	Number of plants or sample size for assessment	Method of assessment and recording	States of Expression	D Method and Minimum distance required	U Method
	Content of vicine/convicine	Seedling		MG	1 = low 9 = high	1 state	

5.4 New Additional DUS Characteristics

Applicants can suggest new additional characters on the TQ for testing DUS or after notification by the DUS Test Centre of distinctness problems. (For procedures see Section F).

Section E – Reference Seed Stock Maintenance and VCU Seed Stock Authentication Procedures

1 Purpose

1.1 This section sets out the procedures for maintaining reference seed and authenticating VCU seed submissions.

2 Scope

2.1 These procedures apply to all reference collection varieties and VCU seed submissions where the VCU seed has not been taken from the same bulk as the seed used for the DUS test.

3 Responsibilities

3.1 The Test Centre is responsible for conducting these procedures.

4 Procedures for Reference Seed Stock Maintenance

4.1 The seed sample submitted with the successful or pending application is considered to be the definitive stock of the variety. Subject to meeting the required quality standards (see Section B); the seed is dried and placed in storage under controlled and monitored refrigerated conditions as part of the official reference collection.

4.2 If, during the normal tests, there is evidence that seed is deteriorating in storage or that stocks weigh less than 1.2kg, a request should be made to the maintainer asking for a replacement stock (3 kg) of the variety. This replacement stock must be authenticated against the original definitive reference sample.

4.3 Plots will be established from any replacement reference seed sample to be authenticated and compared visually with the definitive seed. Plots must be examined through all the growth stages from early habit to full harvest ripeness. If the new seed sample cannot be visually distinguished from the reference seed, it will be accepted as representing the variety and used in subsequent years.

4.4 In the event of the replacement sample not meeting the required acceptance standards set out in 4.3, an additional replacement sample will be requested. If this sample does not meet the standards, the variety will be deleted from the reference collection.

5 Procedures for VCU Seed Stock Authentication

5.1 Side-by-side plots will be established from any VCU seed sample to be authenticated and compared visually with the definitive DUS seed over the recording season.

5.2 The plots must be examined from establishment, through flowering to maturity.

5.3 If the VCU seed sample cannot be visually distinguished from the reference stock it will be accepted as representing the variety

5.4 If the VCU seed sample can be visually distinguished from the definitive stock in the authentication plots then it will not be accepted as representing the candidate variety.

6 Procedures for the Inclusion of New Common Knowledge Varieties into the Reference Collection

6.1 When a new variety enters into common knowledge such that it must be included in the reference collection, a request will be sent by the Test Centre to the Testing Authority which has added this variety to its National list for the supply of at least 400g of seed of the definitive sample. This seed will then be used to validate a larger sample (3kg) from the breeder.

7 Release of Reference Samples for Authorised Purposes

7.1 A maximum of 300g of seed of reference samples can be supplied by the Test Centre, on request to UK, EU and UPOV DUS Testing Authorities and UK, EU and OECD Seed Certification Agencies. The recipient is notified in writing that this material, or any material derived from it, must not be supplied to a Third party or used for any other purpose than as a reference for official DUS testing or seed certification.

7.2 Provision of reference samples, other than in 7.1, to any other parties must be authorised by APHA.

Section F – Procedures for Assessment of New Additional DUS Characters

1 Purpose

1.1 This Section sets out the procedures for assessment of new additional DUS characters for varieties of field beans entered for National List trials and PBR.

2 Scope

2.1 These procedures apply to applications where new additional DUS characteristics which have not been approved by the NLSC are requested for use for determinations of DUS.

Responsibilities

3.1 The Test Centre is responsible for liaising with the applicant to produce a proposed procedure for the conduct of new tests. This procedure must ensure that Distinctness, Uniformity and Stability will be assessed.

3.2 All new additional characteristics must be authorised by the NLSC and CPVO.

4 Reference Varieties

4.1 The reference varieties will include only those varieties from which the candidate variety is not distinct, as well as other appropriate varieties for control purposes.

4.2 Seed of reference varieties will be supplied by the Test Centre.

5 Procedures

5.1 Details of the proposed special test or assessments will be submitted to the NLSC and CPVO for approval. The applicant will be advised by APHA of arrangements and costs.

5.2 The NLSC or CPVO (as appropriate) will consider the results of the commissioned test or trial when reaching its recommendation on the granting of Plant Breeders' Rights and/or National Listing.

5.3 Where the test for a character is approved by the NLSC it should be subsequently listed in Section D5.1 or D5.3.

Section G – Procedures for DUS Decisions

1 Purpose

1.1 This section sets out the standards used to assess distinctness, uniformity and stability of varieties of field beans.

2 Scope

2.1 These procedures apply to all varieties of field beans entered for National List and/or Plant Breeders' Rights tests and those being tested on behalf of Foreign Authorities.

3 Responsibilities

3.1 The Test Centre is responsible for applying the criteria for DUS, set out in this procedure.

3.2 The Test Centre is responsible for producing the DUS report in accordance with these procedures and for ensuring that they are in accordance with the UPOV Guidelines.

4 Reference Varieties

4.1 Appendix I sets out which varieties are considered as reference varieties for these procedures.

5 Distinctness

5.1 In accordance with associated document UPOV TGP9 varieties can be considered distinct where they have a different expression in a grouping character e.g. Wing: melanin spot; Plant: growth type; and Seed: black pigmentation of hilum.

5.2 The standard applied for distinctness over two years of test is a significant difference at 1% ($P = 0.01$) significance level in at least one character in a combined over years distinctness analysis of variance

5.3 The standard applied over three years of test is a significant difference at the 1% ($P = 0.01$) in at least one character in a combined over years distinctness analysis of Variance.

5.4 Where the number of tested varieties is too small (below 15) giving insufficient degrees of freedom for the COYD analysis to be valid, then a standard of significant differences using the one year "t" criterion at 5% is used in both years of test.

or

two out of three years of test (with the significant difference in the same direction).

5.5 Where varieties are grown in close proximity, under the same conditions, and direct comparisons can be made, distinctness can be determined on the basis of visual observation. In these circumstances the basis for distinctness will be recorded clearly. If the visual observation shows the two varieties are clearly distinct, then a case will be presented to APHA and the NLSC with any supporting evidence.

6 Uniformity

6.1 Uniformity is assessed for all characteristics used to establish Distinctness.

6.2 Uniformity based on the assessment of off-types for visually observed characters

6.2.1 Off-type (variant) plants in the field sown plots are identified by visual assessment and are marked for a decision on omission for recording depending upon incidence across replicates. Care is taken to ensure that the plants that are counted are not the result of any non-genetic factors such as environment, pest and disease.

6.2.2 The assessment of 'Off-types' is undertaken in both test cycles and the total combined should not exceed the number allowed using the population standards detailed below.

6.2.3 Off-type standards for visually assessed characters

Population standard = 2%

Acceptance probability = 95%

For example: 6 off-types in a population of 160

6.2.4 After all the variants have been excluded, the characteristics listed in Section D5 are used to assess the uniformity of the remaining plants.

6.3 Uniformity based on the assessment of general variation where measurements are recorded

6.3.1 Provided a variety meets the off-type standard, it can be considered sufficiently uniform after two test cycles, if, for all measured characters necessary for distinctness, the Combined Over Years Uniformity (COYU) analysis is not significantly greater than that of the reference varieties at the 0.2% ($P=0.02$) significance level

6.4 To be considered uniform, a variety must meet the standards in 6.2 and 6.3.

7 Stability

7.1 A variety is considered sufficiently stable when there is no evidence to indicate that it lacks uniformity or fails to conform to the essential characteristics of its description in different submissions or in different tests.

8 DUS Report and Variety Description

8.1 Upon completion of the DUS examination the DUS Summary report will be submitted to APHA by the specified date. This report will specify all non-routine characteristics for establishing distinctness.

8.2 The final DUS report, including the full variety description, will be submitted to APHA by the specified date. The characteristics to be used in the description are identified in Section D.

8.3 For synthetic (composite varieties) as stated on the TQ i.e. varieties that are an amalgamation of closely similar lines then this will be noted in the "Remarks" on the variety description e.g. "This is a synthetic (composite) variety as stated on the Technical Questionnaire". In addition the following statement may be added if appropriate: "Therefore, this variety may show some variation in flower colour".

Appendix 1 – Reference Collection Varieties

1 National Listing and Plant Breeders' Rights

1.1 The DUS reference collection for any given category of plant variety comprises the following at the time when the application for the candidate is made:

1.2 All varieties on the UK National List including any entered for export only to another Member State.

1.3 Varieties on the EC Common Catalogue whose seed is known to be certified or marketed in the UK that are listed by countries with comparable climatic conditions to UK.

1.4 All varieties with EU PBR that are listed by countries with comparable climatic conditions to UK.

1.5 All varieties on the OECD variety list that are listed by countries with comparable climatic conditions to UK.

1.6 Varieties nominated by the authorities concerned where tests are carried out for other Member States.

1.7 Any varieties nominated by the applicant as being comparable i.e. known to be similar.

1.8 Any other varieties considered to be comparable i.e. known to be similar by the appropriate Test Centre or DUS Centre Group.



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APHA is an Executive Agency of the Department for Environment, Food and Rural Affairs and also works on behalf of the Scottish Government, Welsh Government and Food Standards Agency to safeguard animal and plant health for the benefit of people, the environment and the economy.