Animal &
Plant Health
Agency

Great Britain and Northern Ireland Variety List Trials: Trial Procedures for Official Examination of Value for Cultivation and Use (VCU) including appendices

Harvest 2027

Hemp

April 2026

Changes since last version (September 2025)

- Updated year of document and date of last update
- Included Appendices in document, updated title and contents to reflect this change
- Updated Section A
    - Emergence updated to obligatory

Contents

Section A – General Information 1

A.1 Purpose 1

A.2 Scope 1

A.3 Responsibilities 1

A.4 Summary of Growing Trials, Tests and Assessments Procedures 3

Section B – Seed handling procedures 7

B.1 Seed handling procedures 7

B.2 Authentication of VCU seed 7

Section C – Growing trial procedures 8

C.1 Responsibilities 8

C.2 Site suitability 8

C.3 Sowing the trial 8

C.4 Husbandry 10

C.5 Harvesting 12

C.6 Records 13

Section D – Disease testing procedures 18

D.1 Assessment of natural infection 18

D.2 Naturally occurring disease in VCU growing trials 18

D.3 Inoculated disease tests 18

Section E – Quality testing procedures 19

E.1 Responsibilities 19

E.2. Quality assessment methodology 19

Section F – Trial design and data handling procedures 20

F.1 Plan validation and storage 20

F.2 Data recording 20

F.3 Data processing 20
F.4 Other tests and trials 20
Appendix 1 – Approved Trial Organisers/Operators for hemp 21
Appendix 2 – Seed treatment products for use on VL trials 22
Appendix 3 – Seed despatch deadline dates 23
Appendix 4 – Growing Trial Operators and trial locations 24
AX4.1 Growing Trial Operators/Seed Handling Operators 24
AX4.2 Pathology Trials Operator 24
Appendix 5 – Control varieties for VCU assessments 25
Appendix 6 – Dates by which records should be submitted 26
AX6.1 To Trials Organiser 26
AX6.2 To Data Handling Operator 26
AX6.3 To Quality Testing Operator 26
Appendix 7 – Moisture content determination for yield 27
AX7.1 Oven method 27
AX7.1.1 Apparatus and equipment 27
AX7.1.2 Method 27
AX7.1.3 Results 28

Section A – General Information

A.1 Purpose

A.1.1 This document sets out the approved procedures to be used for growing trials, tests and assessments as required by the current Protocol for Official Examination of Value for Cultivation and Use for Hemp.

A.2 Scope

A.2.1 These procedures apply to all varieties of Hemp.

A.3 Responsibilities

A.3.1 Procedures Developments Group

The Procedures Development Group is responsible for reviewing these procedures annually and making amendments for which it has responsibility, in accordance with the provisions of the VCU Protocol.

A.3.2 Trials Organisers and Operators

A.3.2.1 Trials Organisers

British Society of Plant Breeders Ltd (BSPB)
BSPB House
114 Lancaster Way Business Park
Ely
Cambs.
CB6 3NX

Tel. No.: 01353 653200
Email: louise.everest@bspb.co.uk

A.3.2.2 The Trials Organiser is responsible for ensuring all **VCU Protocol** and **Procedures** requirements are followed and liaison with all Operators carrying out trials for National List purposes, including supply of seed and data handling.

A.3.2.3 **Data Handling Operator**

The Data Handling Operator identified by the Trials Organiser is responsible for trial design and data validation in accordance with the **VCU Protocol** and associated **Procedures**.

A.3.2.4 **Growing Trial Operators, Seed Handling Operators and Quality Testing Operators**

The Trials Organiser is responsible for potential Growing Trial Operators and Quality Testing Operators to carry out trials and tests as determined by the Procedures Development annual review in accordance with the **VCU Protocol**, and these **Procedures**. The Trials Organiser is also responsible for finding Seed Handling Operators who are able to carry out seed handling. Seed Handling Operators prepare trial seed for sowing on behalf of any Growing Trial Operator in accordance with the **VCU Protocol** and these **Procedures**.

A.3.2.5 A list of all approved Organisers and Operators is shown in Appendix 1.

A.3.3 VCU Protocol and Procedures non-compliance

A.3.3.1 Where these procedures use the word “must or will’’ for any action then failure to carry out this action will result in non-compliance. Where the word “should” is used for any action then this is the method to be followed unless there are clear reasons not to, which can be justified by the operator as technically sound.

A.3.3.2 The Trials Organiser will forward any reports on **VCU Protocol** or **Procedures** non-compliance to APHA within 1 week of receipt. The Trials Organiser will obtain authorisation from APHA for any actions, including those necessary to remedy non-compliances, which are not within the requirements of the **VCU Protocol**. Such actions must be recorded as a non-compliance. Where emergency action is required and APHA staff are not available (e.g. evenings/weekends) the Trials Organiser should act but report this to APHA at the earliest opportunity. Where GMOs are concerned the arrangements are as detailed in section A.3.4.

A.3.4 Procedures for GM varieties

A.3.4.1 The National Authorities and Trials Organiser will develop procedures for GM varieties if an application for a GM candidate variety is received.

A.3.5 Processing of seed

A.3.5.1 The Trials Organiser is responsible for organising the processing of seed of candidate varieties submitted by the applicant, and seed of control, or other reference varieties, in accordance with the requirements set out in these Procedures and the current VCU Protocol. The Trials Organiser will ensure that any seed treatments or additives are approved for the purpose. Approved products are listed in Appendix 2.

A.3.6 Dispatch of seed

A.3.6.1 The Trials Organiser will arrange for seed to be dispatched by the agreed deadlines to the Growing Trials Operators, and, for authentication to address(es) supplied by APHA. Dates are given in Appendix 3.

A.3.7 Monitoring of Growing Trial Operators and Seed Handling Operators – documentation

A.3.7.1 The Trials Organiser will take any necessary action to enforce deadline dates and quality standards for required documentation.

A.3.7.2 The Trials Organiser will ensure Growing Trial Operators and Seed Handling Operators have access to all current protocols and procedures relevant to them and that they are notified of any amendments.

A.3.8 Seed quantities

A.3.8.1 The Trials Organiser will determine the quantity of seed required for all VCU tests and trials in each annual series, including authentication, and will notify the applicant of quantities and delivery addresses.

A.3.9 Labelling of seed

A.3.9.1 The Trials Organiser is responsible for ensuring all seed is clearly labelled with variety name/breeders' reference and AFP number.

A.3.10 Seed quality

A.3.10.1 Seed submitted for VCU testing should meet the standards for the final generation of seed given in the appropriate seed regulations, in respect of germination, analytical purity and content of other seeds and any other impurities.

A.3.10.2 The seed should be free from pests and diseases, including stem nematode (Dictylenchus spp) and aschochyta.

A.4 Summary of Growing Trials, Tests and Assessments Procedures

A.4.1 The number of trials and site locations are as detailed in Appendix 4.

A.4.2 Control varieties are listed in Appendix 5.

A.4.3 The Trials Organiser is responsible for informing the Growing Trial Operators of the additional characters, which must be recorded as and when requested by applicants, and any samples that may be required for analysis.

A.4.4 **VCU trial assessments requiredBold = Obligatory**
Italics = Additional. Assessed only if requested by the applicant

Observation	Reference	Description of assessment - Obligatory	Description of assessment – Additional (Assessed only if requested by applicant.)
Yield	Section C	**Plot seed yield**	
Yield	Section C	**Seed moisture content**	
Yield	Section C	**Stem yield**	
Yield	Section C	**Stem moisture content**	
Impact of environment	Section C	**Emergence**	
Impact of environment	Section C	**Plant population (plants to be harvested)**	
Impact of environment	Section C	**Plant height**	
Impact of environment	Section C	**Standing ability**	
Resistance to harmful organisms	Section D	None routinely recorded	
Quality characteristics (Laboratory Tests)	Section D		*Dry fibre yield*
Quality characteristics (Laboratory Tests)	Section D		*Oil content and analysis*

Further measurements

The following must be measured or recorded in all trials, following procedures in Section C:

- **Sowing date**
- **Harvest date**
- **Plot size**
- **Bird damage**
- **Seed loss**

Section B – Seed handling procedures

B.1 Seed handling procedures

B.1.1 See GENERAL INFORMATION, SECTION 5 - Minor Crop VCU Procedures Introduction.

B.2 Authentication of VCU seed

B.2.1 APHA will notify the Seed Handling Operator of the DUS Test Centre to which a 200-gram sample of each variety of hemp should be sent for authentication.

Section C – Growing trial procedures

C.1 Responsibilities

C.1.1 The Growing Trial Operators are responsible for conducting the trials according to these procedures.

C.2 Site suitability

C.2.1 The Growing Trial Operator will be responsible for providing a suitable site, which meets the following criteria:

C.2.2 Previous cropping must be appropriate for a hemp crop to be grown and should have no history of disease or likely herbicide residues that could damage the crop.

C.2.3 Soil fertility and texture should be uniform across the site. The soil should be as uniform as possible, with no substantial variations in previous cropping, ridges, furrows, etc.

C.2.4 The trial should be sited away from trees, hedges, headlands and other features, which are likely to cause uneven growth or encourage grazing damage from wild fauna.

C.2.5 The trial area should be cultivated in the direction of ploughing and drilled across the direction of ploughing and cultivation such that each plot receives similar wheeling compaction. Cultivations should follow best local practice.

C.3 Sowing the trial

Seedbeds need to be well prepared but avoid excessive passes, over-consolidation and compacted soil. Prepare and compress the seedbed so that moisture levels are preserved and even (especially on light soils). The trial can then be drilled when conditions are optimum and from April 1st to June 10th .

Surround the trial with a hemp to avoid border effects on the test plots.

Rolling after drilling is usually necessary and beneficial on lighter and stony soils. Heavier soils should be rolled if there's a risk of moisture loss, but it is essential to avoid capping.

Trial Managers must check the emerging crop regularly

C.3.1 Plot size

C.3.1.1 The harvested plot area per variety should be not less than 20 m² per replicate for trials with a minimum of 3 replications. Plots should be drilled to a greater length than

required and cut back to the required length prior to harvest. The plot width for calculating harvested area is measured centre gap to centre gap with an inter-plot gap in the range 0.5 m to 0.8 m.

C.3.2 Plant population

C.3.2.1 The target plant population is 300 plants per m²,

The following formula will be used to calculate the seed rate for a given thousand seed weight:

$$\text{Seed rate (kg/ha)} = \frac{\text{((Target population x Thousand seed weight) x 100)}}{\text{(Establishment \% x Germination \%)}}$$

For operators using seed counters the following formula can be used to calculate required seed numbers per plot:

$$\text{Seed rate (kg/ha)} = \frac{\text{((Target population x Drilled plot area) x 10,000)}}{\text{(Establishment \% x Germination \%)}}$$

The likely establishment % should be judged carefully depending on soil conditions and seedbeds. Growing Trial Operators are responsible for achieving the correct target populations.

C.3.3 Trial seed

Untreated seed must be sent as set out in accordance with the Seed and Fee Notice, directly to the Seed Handling Operator by the deadline set out in Appendix 3.

When drilling, every effort should be made to obtain even emergence.

C.3.4 Trial layout

C.3.4.1 The Trials Organiser following consultation with APHA produces provisional sowing lists. The Trials Organiser will make final sowing lists available to Growing Trial Operators, along with the trial plans produced by the Trial Design and Data Handling Operator.

C.3.4.2 The trial should be sown according to the plan produced by the Trial Design and Data Handling Operator and may be an incomplete block design. In an incomplete block design, each replicate is split into a number of sub-blocks. Any splitting of replicates must be between sub-blocks and not through sub-blocks. Varieties can be moved within a sub-block but must not be moved from their sub-block. Varieties must not be moved around within the plan e.g. if drilling errors occur. If plots are moved out of their original sub-block they will have to be treated as missing plots. If there are any queries, please contact the Trials Organiser.

C.3.4.3 If there is a need to replace a planned variety e.g. if varieties are withdrawn, affected plots must be sown with any of the standard control varieties. Any such replacements must be agreed with the Trials Organiser. The control varieties are listed in Appendix 5.

C.3.5 Drilling

C.3.5.1 Care must be taken with drill settings and drilling speed to ensure satisfactory and uniform establishment and plant population from plot to plot. Drill at 1.5 – 4cm into a firm and fine seedbed. It is also important to ensure that there is no carryover of seed between plots.

C.3.5.2 At least one discard plot must be drilled on either side of the trial with the same drill and at the same time that the trial is drilled.

C.3.5.3 Precautions must be taken to avoid any missing rows. Any missing rows or parts of rows must be noted in the trial diary and reported to the Trials Organiser within one month of emergence.

C.3.6 Confirmation of trial layout

C.3.6.1 After full establishment and within two months of sowing (autumn sown trials) or one month of sowing (spring sown trials), the Growing Trial Operator must confirm that the trial has been sown to plan or give details of any changes to plan. This should be done by clearly highlighting the changes in the electronic plan and returning it to the Trial Design and Data Handling Operator.

Return a completed site data 1 sheet including the following information:

- Site location details including how to get to the field.
- Sketch showing the layout of the trial in the field, in relation to other trials and showing access roads, gates, etc. The location of these features should utilise the navigation platform What3Words.com
- Trial sketch showing plot numbers and variety codes/and or names.
- A short post-establishment report of the condition of the trial.

C.4 Husbandry

C.4.1 Agronomy

Where not specified in these procedures, agronomy should follow best local practice, advisory and regulatory guidelines. Application of fertilisers and sprays should be uniform. It is normally best to apply these across the direction of the plots. Application wheelings should not run through the harvested plot area.

C.4.2 Fertiliser application

It should take into account inherent fertility, previous cropping, winter rainfall, and the best local practice. All fertiliser applications should take account of AHDB Nutrient Management Guide (RB209), the corresponding advisory publications in England, Wales, Scotland and Northern Ireland and past trialing experience.

A typical rate of nitrogen is to use 150–190 kg/ha minimum (including SMN).

Trial managers should be aware of other nutrient requirements and should be prepared, if necessary, to apply appropriate treatments.

C.4.3 Herbicides

The herbicides to be used must be discussed with the Trials Organiser. Chemicals should not be used to which any variety is known to be sensitive.

The following factors should be considered:

Use the minimum dose that will kill the weeds.

C.4.4 Growth Regulators

Plant growth regulators should not be used.

C.4.5 Pest and disease control

C.4.5.1 **Pest control**

Adequate measures should be taken to prevent or minimise damage by any pest.

If there is a risk of bird damage cover the trial with protective nets at sowing, these can be removed at the 2-3 leaf stage.

Assessments should be made wherever pest damage occurs since decisions have to be made on the validity of each plot affected.

For seed dressings, see Appendix 2.

C.4.5.2 **Disease control**

The aim of fungicide application to hemp trials is a compromise between controlling severe outbreaks of disease which might invalidate the trial yields and allowing sufficient disease development to permit the assessment of varietal differences. Precautions should be taken to prevent disease levels in excess of about 10% leaf area cover, or about 10% of capsules infected, by applying appropriate fungicides according to the available approvals

and label recommendations. Any disease which does develop should be recorded as described in Section E.

C.4.6 Irrigation

If irrigation is required to establish the trial, seek the specific agreement of the Trials Organiser.

C.4.7 Pathways

Internal pathways should be made after the risk of bird damage has passed.

C.5 Harvesting

C.5.1 Timing of harvesting

It is the Trial Manager's responsibility to ensure that plots can be harvested without damaging neighbouring plots and without contamination: plots should be separated adequately as required.

C.5.2 Harvesting method

C.5.2.1 The harvest is carried out on a plot of 1 m², corresponding for example to 5 rows over a length of 1.25 m in the case of a spacing of 16 cm between rows, within the basic plot. To avoid external effects, leave one meter unharvested at each end of the plot and two rows on the side.

C.5.2.2 Harvesting is done by cutting the plants (eg using a pruner) at a height of about 5cm from the ground. The harvested plants be artificially dried, immediately.

C.5.2.3 Harvesting the trial should normally be carried out as one process, but can be dependent on the maturity of the candidates:

Plots should be harvested once mature (It is often estimated that maturity is 40 days after full bloom). Sequential harvesting might be required.at the late flowering stage of the latest variety for trials with late to very late varieties.

In the case of varieties very early compared to the control, the harvest must be at maturity of the variety and can therefore be done in several stages.

C.5.3 Samples

C.5.3.1 All bagged samples must be kept in good condition at a moisture content and temperature appropriate for long term storage. They should be clearly marked both inside and outside the container/bag.

C.5.3.2 Moisture content samples must be assessed from every yield plot (stem and seed) in the trial by the Growing Trial Operator. See Appendix 7.

C.5.3.3 Sample drying should be undertaken using a cold/warm air drier to reduce moisture content to 9% or below.

C.5.3.3 All plot samples must be labelled with the trial identification number, variety name/breeders' reference, AFP number, plot number and Growing Trial Operator identification number

C.5.4 Submission of data and samples

C.5.4.1 Appendix 6 lists the records, with deadlines, to be sent to the Trials Organiser. Diary sheets and any other field records should be returned to the Trials Organiser within 5 working days of harvest.

C.5.4.2 Plot records should be transmitted to the Trial Design and Data Handling Operator following the deadlines set out in Appendix 6. The Growing Trial Operator should ensure that data are free from errors before transmission. After scrutiny, copies of results will be returned to the Growing Trial Operator for action as agreed by the Trials Organiser.

C.5.4.3 All samples should be sent to the appropriate Quality Testing Operator following the deadlines set out in Appendix 6.

C.6 Records

C.6.1 There are four components:

1. **Diary** — Field notes of trial status.
2. **Site data part 1*** — Including full location details:
   a) map of site location showing nearby settlements and roads,
   b) a sketch showing the layout of trials in the field with access points and
   c) trial layout, showing plot numbers and variety codes/names.
   d) trial diary.
3. **Site data part 2*** — Details of agrochemical applications and irrigation.
4. **Plot records** — Plot data.

* Template available from Trials Organiser

C.6.1.1 An entry in the Diary sheet should be made on every trials visit and any observations relevant to variety performance should be recorded. If the trial is in good condition, with no problems, this should be recorded.

C.6.2 Plot records

C.6.2.1 Plot data may be recorded direct onto a data logger using a system approved by the Trials Organiser or recorded on paper then entered and validated onto a computer using an approved system. A system of ensuring that data are recoverable, in the event of loss of original data, must be implemented, e.g. copy and safe storage. Whichever method is used, individual plot data will only be accepted by the appropriate Trial Design and Data Handling Operator in an approved format using the AFP number, variety name and units as listed in Sections C and D.

C.6.2.2 All observations should be checked at the time of recording to identify any unusual plot performance. These observations should be noted by the recorder and any possible causes identified, together with a recommendation for whether the data should remain in the analysis or should be excluded.

C.6.2.3 Plot numbers on record sheets must correspond with the numbering on the field plan.

C.6.2.4 If a character is not recorded or is missing the Growing Trial Operator should indicate in the diary or on the recording sheet the reason why it has been excluded.

C.6.2.5 Where a plot record is missing the Growing Trial Operator should record this in any data file or hard copy medium as a symbol thereby indicating there is no recorded value associated with this plot.

C.6.2.6 Specific plot records should be made as counts or on the scales shown for each character. Only the character names as listed may be used. All records should be returned to the Trial Design and Data Handling Operator as soon as possible after they are completed

C.6.2.7 All records must be returned as soon as reasonably possible and when complete for the whole trial. Indicative deadlines are given in Appendix 6. All records must be returned by the final deadlines.

C.6.3 Procedures for recording Characters

The following procedures must be followed for measuring all characters to be used in VL decision-making:

C.6.3.1 **STEM YIELD AND MOISTURE CONTENT (OBLIGATORY) (kg)**

Stems should be weighed free of leaves and seeds.

The following information must accompany the yield data:

- The moisture content of the stems determined the oven method (Appendix 7).
- Harvested length: the length harvested in meters.
- Harvested width: the width of the harvested area in meters from outer row to outer row plus half of the inter-plot gap on either side. If these are not the same for every plot a separate record must be submitted.
- Yield (in kilograms). Note clearly any tare weight to be subtracted.

C.6.3.2 **SEED YIELD AND MOISTURE CONTENT (OBLIGATORY) (kg)**

Seed should be threshed and cleaned.

The following information must accompany the yield data:

- The moisture content of the seed determined the oven method (Appendix 7).
- Harvested length: the length harvested in meters.
- Harvested width: the width of the harvested area in meters from outer row to outer row plus half of the inter-plot gap on either side. If these are not the same for every plot a separate record must be submitted.
- Yield (in kilograms). Note clearly any tare weight to be subtracted.

C.6.3.3 **EMERGENCE from all plots (OBLIGATORY) (1-9)**

1 very poor
9 very good

C.6.3.4 **POPULATION from all plots (OBLIGATORY) (1-9)**

On the m^2 to be harvested count all plants participating in the yield.

C.6.3.5 **STANDING ABILITY from all plots (OBLIGATORY) (1-9)**

1 very poor
9 very good

Growing Trials Operators should assess standing ability at a stage that provides good discrimination between varieties and be prepared to repeat the assessment if further lodging develops.

C.6.3.6 **PLANT HEIGHT from all plots (OBLIGATORY) (cm)**

Record average plot height at the end of flowering before leaning or lodging takes place. If lodging has occurred, choose a representative area of the plot, lift 3 plants against the measuring pole and record an average height.

C.6.3.7 **SOWING DATE of each trial (OBLIGATORY) (Day/month/year)**

This is recorded in Part 1 of the Site Information Form.

C.6.3.8 **HARVEST DATE (OBLIGATORY) (Day/month/year)**

This is recorded in part 2 of the Site Information Form.

C.6.3.9 **BIRD DAMAGE from all plots (OBLIGATORY) (1-9)**

1 all plants severely damaged
9 no plants damaged

Indicate the cause of damage and, in the Diary section, what action has been taken to minimise further damage.

C.6.3.10 **SEED LOSS from all plots (OBLIGATORY) (1-9)**

1 severe seed loss
9 no seed loss

and give an estimation of maximum % seed loss/boll loss.

Record before harvest if serious loss has already occurred. Base scores either on observation of boll loss or counts on the ground. Ensure that combines are set correctly to minimise losses at harvest. Assess any serious combining losses after harvest.

C.6.3.11 **Site factors**

Any factors which may have affected the yield of the trial or individual plots must be noted and accompany the yield data.

Where varietal differences are seen in pest or disease attack, records should be made either as an estimated % of plants affected, or as % leaf area attacked in accordance with the procedure in Section D for disease.

Records for other scores should be taken as % plants affected or on a 1 to 9 scale. Include definitions of 1 to 9 on the scale.

C.6.3.12 **Trial Inspection**

All trials will be inspected by the Trial Inspection and Technical Validation Operator, and, in some cases, it may be necessary to visit on more than one occasion.

The requirements for Growing Trial Operators in respect of inspections are to:

1. Give inspectors reasonable access to trials and to provide full location and site details (if not already given with site data1).

2. Provide the inspector with information (for example pesticide sprays applied etc) within seven days of a request.

3. Co-operate with the inspector in making any non-routine assessments required to establish the validity of the trial (for example population counts).

4. Carry out any action agreed in consultation with the inspector. In particular it is important that any requirement to shorten plots is undertaken. The data on plots that the trials operator and inspector agree to exclude should not be submitted.

Section D – Disease testing procedures

D.1 Assessment of natural infection

D.1.1 Disease observation tussocks

D.1.1.1 No disease observation tussocks are carried out routinely.

D.2 Naturally occurring disease in VCU growing trials

D.2.1 If disease levels increase to levels more than 5% of the leaf area (or 5% of infected plants as appropriate for the diseases) on the most affected variety a score should be made and sent to the Trials Organiser. Confirmation of the identity of a disease should be obtained from an appropriate plant pathologist if required. If disease infection persists, successive records should be made through the season.

Disease data should be received by 13 August

D.3 Inoculated disease tests

D.3.1 No inoculated disease tests are carried out routinely.

Section E – Quality testing procedures

E.1 Responsibilities

E.1.1 The Quality Testing Operator appointed by the Trials Organiser is responsible for conducting approved quality tests according to these procedures.

E.2. Quality assessment methodology

E.2.1 Fibre content determination

A methodology recognized by the National Authorities must be used.

E.2.2 Sampling for chemical analysis (∆9-THC)

A methodology recognised by the National Authorities must be used.

Section F – Trial design and data handling procedures

F.1 Plan validation and storage

F.1.1 After the trial has been drilled, the Growing Trial Operator must:

a) Confirm that the trial has been drilled according to plan and provide the sowing date, by returning site data 1 and associated trial sketch to the appropriate Trial Design and Data Handling Operator.

b) If any amendments to the plan have been made, return a hard copy of the plan to the appropriate Trial Design and Data Handling Operator with any amendments clearly indicated. Alternatively, amendments may be notified electronically with the agreement of the Trial Design and Data Handling Operator.

F.1.2 The Trial Design and Data Handling Operator will check these for statistical validity.

F.2 Data recording

F.2.1 Data are recorded using the methods and characters given in Sections C, D and E.

F.2.2 Site information is recorded for each trial including, for example, data on previous cropping, seed rates, soil details and fertiliser applications.

F.2.3 Details of any agrochemical applications are also recorded and forwarded to the Trials Organiser.

F.3 Data processing

F.3.1 Processing of individual agronomic and disease variates.

F.3.2 A list of the agronomic, yield and disease variates, which may be recorded and processed, are specified in Sections C, D and E. After scrutiny, copies of the results will be returned to the Growing Trial Operator for action as agreed by the Trials Organiser

F.4 Other tests and trials

F.4.1 Any additional or alternative designs required for the assessment of additional VCU characters not detailed in Annex A of the **MINOR CROPS VCU TRIAL PROTOCOL** will be added to these **Procedures** as and when approved by the NLSC.

Appendix 1 – Approved Trial Organisers/Operators for hemp

Activity	Organisers/Operators Responsible
Trials Organiser	BSPB
Seed Handling Operator	Niab
Trial Design and Data Handling Operator	Niab
Pathology Trials Operator	None
Trial Inspection and Technical Validation Operator	BSPB
Quality Testing Operator	Niab
Data Review and Standard Setting Operator	Niab

Appendix 2 – Seed treatment products for use on VL trials

To be advised.

Appendix 3 – Seed despatch deadline dates

VCU seed must be delivered to Niab by:

- 15 January

Appendix 4 – Growing Trial Operators and trial locations

AX4.1 Growing Trial Operators/Seed Handling Operators

Growing Trial Operator	Seed Handling Operator (If not trial operator)	Location of trial
Niab	Niab SHU	Cambridge

AX4.2 Pathology Trials Operator

Pathology Trial Operator	Location of trial
Not applicable	Not applicable

Appendix 5 – Control varieties for VCU assessments

The control varieties are:

- Futura 75

Appendix 6 – Dates by which records should be submitted

AX6.1 To Trials Organiser

Record	Latest date of receipt by Trials Organiser
Site data part 1 (including site sketch)	Within 2 months of drilling trial (autumn sown trials) Within 1 month of drilling trial (spring sown trials)
Site data part 2	By the time trial is harvested
Plot records (in approved electronic format)	Growing Trial Operator should notify Trials Organiser that trial has been harvested within 2 days of harvest

AX6.2 To Data Handling Operator

Record	Date
Plot records should be sent to Data Handling Operator	Within 10 days of record being taken

AX6.3 To Quality Testing Operator

Samples	Date
Plot samples for quality testing should be sent to the Quality Testing Operator	Within 2 days of harvest

Appendix 7 – Moisture content determination for yield

Yield data must be corrected to 9% moisture content. In order to do this, the moisture content of the harvested plot grain is required.

AX7.1 Oven method

Samples are dried until constant mass is achieved. For expediency it is permissible to dry samples for a fixed time provided it can be demonstrated that this is sufficient to reliably achieve constant mass for samples even when the chosen apparatus is fully loaded with samples.

AX7.1.1 Apparatus and equipment

Oven: electrically heated and controlled in such a way that, during normal working, the mean temperature of the air and of the shelves carrying the test samples is 100° C and operates within the range 96 - 104° C. (Temperature to be reviewed by the Procedures Development Group). The oven should be regularly maintained and regularly checked for correct operation.

Sample drying trays: durable under test conditions and being of a size which enables the test sample to be distributed evenly within the tray and at depth which does not protract the drying time.

Balance: accuracy 0.1 g ± 0.05 g. The balance should be regularly serviced and calibrated. Frequent checks on its correct operation should be made during the period when the balance is in use.

AX7.1.2 Method

The test samples are received direct from the combine in hermetically sealed bags or containers. Weigh a fully representative 100 g sub-sample or an accurately recorded catch-weight between 100-200 g and place into the drying tray with an identifying label.

Place the drying trays containing the test samples into the pre-heated oven. Dry the test samples for the pre-determined period or until constant mass is achieved (see below).

Remove the test samples from the oven and allow to cool to ambient temperature.

Record the dry weight of the test sample to 0.1 g.

If achievement of constant mass is to be directly measured, five check samples should be removed from a range of positions within the oven after a period of about 16hrs. The dry weight of these samples should be recorded as above. The check samples should be returned to the oven and dried for a further 2 hours and the dry weight again recorded. A dry matter content of less than 0.3% between the two determinations will be accepted as representing constant mass. If constant mass has not been achieved, the check samples should be returned to the oven for further periods of two hours until constant mass is observed.

AX7.1.3 Results

The dry matter content of the test sample is calculated as follows:

$$\textit{Dry Matter (\%)} = \frac{\textit{Dry test sample weight x 100}}{\textit{Original test sample weight}}$$

When all samples from a given trial have been recorded, the fresh and dry weights are immediately reported to the Data Handling Operator electronically. When the dry weights are reported as a percentage, the fresh weight should be reported as 100.

Data Protection:
For information on how we handle personal data visit www.gov.uk and search Animal and Plant Health Agency Personal Information Charter.

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