

Protocol 004: WR 22-26 NL (Jan 2023)



## RECOMMENDED LISTS

### **AHDB Recommended Lists (RL) for cereals and oilseeds: Winter oilseed rape trials (additional NL2 trials for RL purposes) (2022–26)**

This protocol was believed to comply with relevant agrochemical, environmental and other regulations at the time of writing but it is the responsibility of the contractor to ensure that it continues to comply. In the event of non-compliance the protocol should not be followed but the Field Trials Manager should be notified at once of how the protocol requirements would breach regulations.

Any deviation from this protocol other than under the circumstances described above may result in a breach of contract and should be agreed in advance.

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**Changes from previous version**

| <b>Page no.</b> | <b>Section</b> | <b>Details of change</b>  |
|-----------------|----------------|---|
| 6               | 1.3.1.1        | Bordered drills: major change   |
| 8               | 1.5.3          | Amended seed rate   |
| 9               | 1.6.3          | “AHDB Nitrogen Management Guideline” amended to “ AHDB Nutrient Management Guide” |
| 10              | 1.6.5          | Pest control: major change  |
| 15              | 2.2            | Flowering: major change   |
| 16              | 2.2            | Updated guidance for maturity assessments   |
| 19              | 2.5            | Amended trial inspection dates  |
| 20-22           | Appendix 1     | Fungicide protocol moved to Protocol 204  |

## CONTENTS

**Hyperlinks** are provided for quick navigation of this document. To return to your original reading point, press Alt and the Left Arrow keys.

|  |           |
|--|-----------|
| <b>PART 1: THE TRIALS</b>  | <b>5</b>  |
| 1.1 Introduction.....  | 5         |
| 1.2 Site Selection .....   | 5         |
| 1.3 Trial options .....  | 6         |
| 1.3.1 Trial types and treatments   | 6         |
| 1.3.2 Trial design options and drill types                                       | 6         |
| 1.4 Trial Workbooks.....   | 7         |
| 1.5 Drilling the trial .....   | 7         |
| 1.5.1 Plot dimensions, discards and the surrounds                                | 7         |
| 1.5.2 Trial Seed   | 8         |
| 1.5.3 Seed Rate  | 8         |
| 1.5.4 Drill Types  | 8         |
| 1.5.5 Timing of Sowing   | 8         |
| 1.6 Husbandry .....  | 8         |
| 1.6.1 Herbicides   | 8         |
| 1.6.2 Fungicides   | 8         |
| 1.6.3 Fertilisers  | 9         |
| 1.6.4 Plant Growth Regulators  | 10        |
| 1.6.5 Pest control   | 10        |
| 1.6.6 Imidazolinone tolerant 'Clearfield' varieties                              | 10        |
| 1.7 Harvesting .....   | 10        |
| <b>Part 2: Data records, sampling and validation</b>                             | <b>12</b> |
| 2.1 Completion of records.....   | 12        |
| 2.1.1 Confirmation of sown to plan   | 13        |
| 2.1.2 Site plot data (Site data, location and plan details)                      | 13        |
| 2.1.3 Early data   | 13        |
| 2.1.4 Disease data   | 14        |
| 2.1.5 Harvest data   | 14        |
| 2.2 Agronomic characters and scales.....   | 14        |
| 2.3 Disease assessment and recording .....                                       | 18        |
| 2.4 Trial samples and quality tests .....  | 18        |
| 2.5 Trial inspection and data validation .....                                   | 19        |
| <b>Appendix 1 - Assessment key for oilseed rape diseases</b>                     | <b>20</b> |
| <b>Appendix 2 - Growth stage key for oilseed rape</b>                            | <b>24</b> |
| <b>Appendix 3 - Winter hardiness assessment key</b>                              | <b>25</b> |
| <b>Appendix 4 - Deadlines and milestones</b>                                     | <b>26</b> |
| <b>Appendix 5 – Dry matter and oil content determination in oilseed rape</b>     | <b>28</b> |
| <b>Appendix 6 – Guidelines for the harvesting of oilseed rape variety trials</b> | <b>29</b> |
| <b>Appendix 7 – Trial sites: operators and locations 2022-2026</b>               | <b>32</b> |

***Appendix 8 – Payments for abandoned or rejected trials***

**33**

## Part 1: The Trials

### 1.1 Introduction

This protocol is for winter oilseed rape AHDB-funded National List trials (five NL2 trials). These trials are grown to the RL protocol and are intended to augment NL data to give greater confidence in the suitability of varieties (especially in the North region) when considering NL2 varieties for promotion into RL trials as candidates.

See Appendix 7 for details of trials, operators and locations.

The trial operator will be responsible for the choice of site, and for the establishment, supervision, recording and harvesting of the trial.

#### ***Genetically modified (GM) varieties***

There are no GM varieties in Recommended List (RL) or Descriptive List (DL) trials. RL or DL trials must not be grown on, or near, land that contains, or has contained, genetically modified (GM) plants without the express permission of the RL Consortium Project Board. Seed suppliers will be required to give written assurances that all reasonable steps have been taken to prevent the adventitious presence of GM material during breeding, production and handling of the seed submitted for trials.

The varieties/seed submitted will be:

- varieties bred from parent plants that have not been genetically modified.
- produced from plants grown under appropriate isolation conditions and isolated from transgenic lines.

A decision to abandon a trial must only be taken in consultation with the Field Trials Managers Team.

In principle, cultivation and agronomy should follow best local practice.

Records must be clear and self-explanatory so that the trial can be taken over at short notice by another officer without difficulty.

The seed has been supplied for trial purposes only, and must not be used for any purpose other than that specified by the RL Project Board unless special permission has been obtained. It is supplied for testing on the condition that it is not multiplied for other purposes and it is the responsibility of the officer in charge of the trial to ensure that this does not occur.

### 1.2 Site Selection

Trials should be grown in farm crops and sited away from trees, hedges, headlands and other features likely to cause uneven growth. The soil should be as uniform as possible but, if there are irregularities such as ridges or furrows, the trial should be drilled across them. Ensure that cultivations are carried out across the direction of sowing.

Previous cropping must be appropriate for a winter oilseed rape crop to be grown. Sites should be selected for a minimum of volunteers and a five year break would be ideal. Shorter rotations may be allowed in prior consultation with the Field Trials Manager. All attempts should be made to reduce volunteer pressure within the trials.

The trial must not be located on land that has been used for trials in the previous 12 months. Applications of fertilisers and sprays must be uniform and should be applied across the direction of the plots.

Varieties with herbicide resistance (e.g. Imidazolinone 'IMI' or 'Clearfield' varieties) are likely to be included in RL trials and a site must be found to accommodate these varieties. Trial managers should note that subsequent volunteers will have the same herbicide tolerance, the control of which will require an alternative herbicide and it is the responsibility of the trial manager to ensure that their host farmers are made aware of this. Further information can be found at:

[http://www.agricentre.basf.co.uk/agroportal/uk/media/marketing\\_pages/clearfield/BASF\\_CL\\_Best\\_practice\\_1204.pdf](http://www.agricentre.basf.co.uk/agroportal/uk/media/marketing_pages/clearfield/BASF_CL_Best_practice_1204.pdf)

It is essential to have free access to the trial by authorised personnel and equipment at all times including at harvest, even if the surrounding host farm crop is not ripe.

### 1.3 Trial options

The sowing lists and trial design will be specified by the Field Trials Manager and RL Data Team; NL2 varieties and controls will be grown. Randomisations will usually be incomplete block, neighbour-restricted designs. It is important that any change to the drilling layout is discussed and agreed with the Field Trials Manager beforehand.

#### 1.3.1 Trial types and treatments

These trials have a three replication fungicide treated yield trial only.

#### 1.3.2 Trial design options and drill types

The design used will depend on the type of drill and plot to be used. It is the responsibility of trial operators to give prior notice of the type of drill and trial design they will use so that the correct trial design can be used.

##### 1.3.1.1 Bordered drills (full-width borders)

In this configuration the coulters are arranged such that some rows are outside of the harvested area providing each plot with its own (un-harvested) buffer area thus reducing or eliminating the effects of shading and competition by neighbouring plots.

If the bordered plot system is used, and the total width of the discarded border between the \*harvested plots is at least 1.5 m wide, and the direct combining method is used, then there is no need to block and separate with buffers the hybrid, semi-dwarf (SD) and conventional open pollinating (OP) varieties i.e. the trial may be a fully randomised design. If a fully randomised design is used the trial should be combined direct (i.e. not swathed) to avoid damage to semi-dwarf varieties. Exceptionally, fully randomised trials may be swathed but this must be discussed with the Field Trials Managers prior to harvest and evidence provided (measurements, photographs) that doing so will leave an adequate swath without damaging the semi-dwarf varieties. Any trial operator planning to use a swather must lay out the trial in such a way that the semi-dwarf varieties can be harvested direct without damage.

\*The width of the harvested plot is the measurement from the outer row to outer row plus half of the inter-plot gap.

##### 1.3.1.2 Bordered drills (narrow borders)

If the total width of the discarded border area between the harvested plots is less than 1.5m wide and/or the direct combining method is not used then the hybrid, semi-dwarf (SD) and conventional open-pollinating (OP) varieties must be blocked together within the randomisation and buffer plots inserted between each block type, as below:

Hybrids will be blocked together and each hybrid block bordered on either side with a hybrid buffer plot.

Semi-dwarf varieties will be blocked together and surrounded by dwarf buffers.

Conventional OP varieties will be bordered on either side with a buffer plot of a conventional out-pollinating variety.

### **1.3.1.3 Conventional non-bordered drills**

In conventional non-border drills where the whole plot is harvested the effects of shading and competition between neighbouring plots can affect growth and hence yield. To minimise these effects the difference between the plot width and plot length must be as small as possible. A single plot sown with a conventional unbordered drill will (typically) be 12 metres long and around two metres wide; so to reduce the neighbour-effects, plots should be sown double-width (or 'paired'). Where paired plots are used then RH, SD and OP varieties must be blocked and buffered as described in [1.3.1.1](#).

### **1.3.1.4 Semi-dwarf varieties**

Semi-dwarf varieties tend to produce pods close to the ground and will not normally be swathed irrespective of the decision for the rest of the trial so the trial must be laid out to allow for this. If a swather is to be used for the rest of the trial the semi-dwarf plots must be sown in such a way that there is no risk of damage to either type during swathing and/or harvesting operations. Queries should be referred to the Trials Coordinator.

## **1.4 Trial Workbooks**

The RL Data Team will generate trial workbooks/plans. They will be transferred to the appropriate trial centres in electronic format as Excel workbooks (one for each trial).

In an incomplete block design, any splitting within superblocks must ensure that blocks stay complete. Any movement of varieties to avoid clustering must be within sub-blocks and not between them. If there are any problems with the plan or in adjusting it to fit into the field, the RL Data Team should be consulted. If the trial has not been sown to plan confirmation of the changes must be received clearly marked on the trial layout. A new workbook is likely to be issued to you with updated data tabs to reflect these changes and prevent confusion at time of data submission. See section 2.1.1. below.

## **1.5 Drilling the trial**

### **1.5.1 Plot dimensions, discards and the surrounds**

Yield plots must be unbordered paired plots or bordered single plots (see [1.3.2](#)).

Unbordered paired plots must have a minimum harvested plot area of 36m<sup>2</sup> per replicate, and have a minimum combined width of 3m (including inter-plot gap). Bordered plots must have a minimum harvested plot area of 18m<sup>2</sup>.

It is essential that the plot size suits the intended plot equipment and contractors should discuss their plans with the Field Trials Manager prior to drilling to ensure that this is the case.

Plots should be drilled to a greater length than required and trimmed to their final length before the mid-stem extension stage. The plot width for calculating harvested area is measured centre gap to centre gap with an inter-plot gap in the range 0.5m to 0.8m. If a swather is used the sown plot width should reflect the blade width used.

### **1.5.2 Trial Seed**

#### ***Supply of seed to trial operators***

Seed is supplied to trial as bulk sufficient to sow the specified trials. The seed may not be treated with pesticides to control (e.g.) aphids or flea beetles. It is the responsibility of each trial manager to prepare plot packets from the bulk of seed supplied and to ensure that the correct plant population is achieved. Variety names, codes and thousand seed weight information will be sent to trial managers, usually by e-mail.

Varieties may be withdrawn at a very late stage, notification of this will be given and these varieties should not be sown. If a variety is withdrawn after trial seed has been placed in order and drilling is imminent, seed of an appropriate control variety may be substituted for that of the variety that has been withdrawn.

Surplus seed may be used for discard and buffer plots or filling in but for no other purpose without the prior consent of the Field Trials Manager.

### **1.5.3 Seed Rate**

Seed rates may be adjusted to suit site conditions at the discretion of the trials operator, with the aim of producing a spring population of 40 plants/m<sup>2</sup>.

When drilling, every effort should be made to obtain even emergence. Internal gangways should not be mown until the risk of pigeon damage has passed.

### **1.5.4 Drill Types**

There are two acceptable drill configurations and trial design will depend on the type used. See [1.3.2](#)

### **1.5.5 Timing of Sowing**

Trials should be drilled as soon as all seed is received (23<sup>rd</sup> August) and the final sowing list is known. Where possible, the drilling of the trial should be timed to coincide with that of the surrounding farm crop.

## **1.6 Husbandry**

### **1.6.1 Herbicides**

Chemicals must not be used to which any variety is known to be sensitive. If in doubt, the Trials Coordinator should be consulted.

### **1.6.2 Fungicides**



To be applied to +F plots only; untreated yield trials and DOPs must not be fungicide treated.

The protocols are updated annually (usually December/January) and issued separately. The correct fungicide programme must be used; they form part of the trial contract and may constitute a breach of the contract if not adhered to and it is the responsibility of the trial operator to ensure they are using the correct protocol. The current protocol for use until January 2023 is shown in Protocol 204.

Precautions should be taken against attacks by slugs and insects such as cabbage stem flea beetle, seed weevil and pod midge. Trial operators must ensure that adequate control measures are taken to control flea beetle attack.

### **1.6.3 Fertilisers**

Fertiliser applications should be in line with advisory guidelines (e.g. The AHDB Nutrient Management Guide (RB209 or equivalent)) and must not conflict with any statutory requirements (e.g. SFP Cross-compliance, Nitrate Vulnerable Zone (NVZ) restrictions) in force at the time.

Trial operators must apply sulphur to trials unless these are situated in areas of high sulphur deposition. Application of a minimum of 40 kg S/ha as granular compounds or in liquid form should be made in the early spring.

Trial operators should be aware of the implications of other nutrient requirements and be prepared to apply an appropriate treatment. In England and Wales, PLANET software is a useful tool for determining the nutrient requirements of individual fields. See [www.planet4farmers.co.uk](http://www.planet4farmers.co.uk).

### 1.6.4 Plant Growth Regulators

Currently plant growth regulators must not be used on RL trials but this may be reviewed and changed during the contract period.

### 1.6.5 Pest control

Pest damage between establishment and early spring e.g. by pigeons, may be selective and control measures should be taken if necessary. Control can be difficult but every effort should be made to minimise losses. Precautions should be taken against attacks by slugs and insects such as cabbage stem flea beetle, cabbage root fly, seed weevil and pod midge. Where there is a risk of significant flea beetle attack, Trial Operators must ensure that adequate pre- and post-emergence control measures are taken. Birds can cause damage near harvest, especially when trials are near houses. Control is difficult but every effort should be made to minimise losses. Assessments should be made wherever damage occurs since decisions have to be made on the validity of each plot affected.

### 1.6.6 Imidazolinone tolerant 'Clearfield' varieties

Imidazolinone herbicide resistant aka 'Clearfield' varieties should have the same management and husbandry as non imidazolinone tolerant varieties.

## 1.7 Harvesting

Plots should be trimmed to their final length before mid-stem extension to minimise the damage to remaining plants.

If the trial is to be cut direct, a header-extension must be fitted to the plot combine to minimise table losses.

Side-knives must not be used.

It is the trial operator's responsibility to ensure that plots can be harvested without damaging neighbouring plots and without contamination: plots should be separated adequately as required by hand or machine. If it is necessary to reduce the length of any plot at harvest, clear details should be given in the trial diary sheet and the harvested plot length of each plot should be recorded and submitted with the yield data.

Notify the Field Trials Managers that harvest has taken place on the day of harvest, or first thing the following day. Yield with dry matter must be returned within three days of the harvest of the trial, together with any outstanding other data. If dry matters are being conducted by a sub-contractor, it is the responsibility of the trial operator to ensure that the dry matter data are submitted to AHDB within the three days, or to advise the Field Trials Managers if this is not possible.

The choice of harvesting technique (swathing or direct combining) is at the discretion of the trial manager and based on the state of the crop after flowering but there are important conditions that must be met.

Non semi-dwarf varieties may be swathed or desiccated (preferably using a translocated desiccant such as glyphosate) and combined direct.

Semi-dwarf will not \*normally be swathed irrespective of the decision for the rest of the trial and trial managers wishing to use a swather must sow the trial in a way that allows the direct combining of the semi-dwarf plots.

\*If the crop is tall and semi-dwarf varieties can be swathed without losing any pods/seed and leave an adequate swath, permission may be sought in advance to do so. The Field Trials Managers will require evidence (measurements, photographs) both prior to and after swathing to show that the semi-dwarf varieties will not be / have not been penalised by swathing.

Equipment to conduct the chosen harvesting technique must be available to the trial operator at the optimum time. The trial operator must indicate in the trial workbook which technique has been used, giving the reasons for their choice.

### ***Swathing or desiccation: points for consideration***

#### Swathing

Plots should be tall enough such that stems can be cut to leave long stubble onto which the cut plants can rest during the drying period. It may not be possible to satisfactorily swath very short crops and/or those that have pods on branches that are very close to the ground.

Plots can be swathed during weather periods that would preclude desiccation.

Swathed crops are more prone to bird damage (such as pigeons) especially if harvest is delayed.

#### Desiccation and direct-combining

On tall and/or thick crops it may not be possible to get spraying machinery through the trial without causing unacceptable damage and it may be impossible to get even coverage of the desiccant: swathing may be the better option.

Thin, standing plots that have not interlinked to form a canopy may be more prone to wind shedding if harvesting is delayed.

## Part 2: Data records, sampling and validation

### 2.1 Completion of records

The trial workbook should be used to record all data.

Completed data should be returned to [trials@ahdb.org.uk](mailto:trials@ahdb.org.uk) as soon as records are taken and by the deadlines shown in the table below:

| Report  | Deadline   | Sheets to be returned (use return macro to submit the required workbook tabs)   |
|---|--|---|
| 1) Confirmation of sowing and notification of changes to plan | With 5 days of sowing  | Confirmation that the trial has been sown and if it has been sown to plan.<br>Trial layout – clearly changes if trial has not been sown to plan |
| 2) Site data  | Autumn sown trials: within two months of sowing.   | Site data<br>Map of area<br>Field layout sketch<br>Trial layout<br>Trial diary  |
| 3) Early data   | Autumn sown trials: within two months of sowing.<br>Some measures maybe recorded after this time.  | Early data recording tab<br>Trial diary update  |
| 4) Disease data   | Winter crops - As soon as recorded and by 11 <sup>th</sup> July.<br><br>Data submitted by these dates will be used in the calculation of disease ratings but if disease develops after this date, records should be taken and submitted as soon as possible and will be used when practicable. | Disease data recording tab<br>Trial diary update  |
| 5) Harvest data   | Within 5 days of harvest   | Harvest data recording tab<br>Agchem details<br>Trial diary update  |

Early, disease and harvest plot data tabs contain columns for records likely to be undertaken during the recording period and which may or may not be required by the protocol. Any additional recording columns can be added on the relevant data tabs.

### 2.1.1 Confirmation of sown to plan

Confirmation that the trial has been sown and if it has been sown to plan. If the trial has not been sown to plan confirmation of the changes must be received clearly marked on the trial layout. A new workbook is likely to be issued to you with updated data tabs to reflect these changes and prevent confusion at time of data submission.

### 2.1.2 Site plot data (Site data, location and plan details)

For autumn-sown trials this information should be returned shortly after full establishment and within two months of sowing. The information for spring-sown trials should be returned as soon as possible and within a month of sowing.

This report should include:

- Confirmation of sowing to plan or full details of any changes to plan.

This should be done by clearly highlighting the changes on the trial layout tab contained in the workbook. On receipt of the returned workbook the RL Data Team will ensure that the plan has been modified correctly within all areas of the workbook and may re-issue an updated workbook to include these changes in all areas of the workbook including the data tab. If a new workbook is issued it is recommended that any older versions of the workbook are deleted.

- Completed site data tab
- Map of area. Site location details i.e. how to get to the field by road
- Field layout sketch. Sketch showing the layout of the trial(s) in the field, in relation to other trials and showing access roads, gates etc.
- Trial layout. Trial sketch showing plot numbers and variety IDs
- A short post-establishment report of the condition of the trial in the diary tab

### 2.1.3 Early data

This sheet will contain

- All agronomic plot data to be recorded up to and including flowering (GS4.9)
- For each measure you will need to provide date of recording and the growth stage at time of assessment
- Please submit data as it is assessed

### 2.1.4 Disease data

This sheet will contain

- Disease data relevant to your crop and trial purpose
- For each measure you will need to provide date of recording, and the growth stage at time of assessment
- Please submit data as it is assessed

For winter crops valid data returned by 11<sup>th</sup> July can be used to calculate disease ratings and used for the next AHDB Recommended List.

Data returned after these dates will be stored in the database for future use.

Where disease levels are very low and the decision is taken to postpone an assessment until a later date please enter this information in the trial diary. Where disease levels are too low for an assessment all season, please make a note of this in the trials diary and send an email to the trials inbox ([Trials@ahdb.org.uk](mailto:Trials@ahdb.org.uk)).

### 2.1.5 Harvest data

This sheet will contain:

- All plot data, including yield, dry matter and all remaining agronomic data (see 2.2)
- For each measure you will need to provide, date of recording, and the growth stage at time of assessment
- Trial diary comments. Note any factors that may affect the validity of the trial
- Treatments applied to the trial and details of agrochemical inputs must be returned in the Agchem sheet. Note that the harvest method (i.e. swathing or direct cutting) should be noted in this sheet

## 2.2 Agronomic characters and scales

The list below details the records required and the scales that should be used. Data should be recorded in the Excel recording sheets within the trial workbooks. A de-randomising facility is available that allows you to conduct an initial validation of the data. Contact the RL Data Team for more information.

The growth stage must be recorded for each observation. The correct growth stage key is given in Appendix 2.

Plot numbers and variety codes must correspond to those on the trial plan within the workbook.

In order to make records comparable across sites, it is essential that the names and units used should be as indicated below. Records of other characters will be processed but may be used only for validation purposes and may not be stored.

Plot records are made using the following scales and guidelines:

|                        |               |                   |
|------------------------|---------------|-------------------|
| <u>Emergence (1-9)</u> | 1 = very slow | <b>OBLIGATORY</b> |
|                        | 9 = very fast |                   |

Obligatory from all trials. Record the speed of emergence for all plots on one occasion at the seedling stage. In the trial diary record the estimated date of full emergence for a control variety.

|                            |                |                   |
|----------------------------|----------------|-------------------|
| <u>Establishment (1-9)</u> | 1 = very thin  | <b>OBLIGATORY</b> |
|                            | 9 = very thick |                   |

Obligatory from all trials. Record on one occasion after emergence is complete. In the trial diary, record the approximate number of plants per metre of row for the highest and lowest values used.

|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| <u>Early vigour (1-9)</u> | 1 = very weak     | <b>OBLIGATORY</b> |
|                           | 9 = very vigorous |                   |

Obligatory from all trials. This should be recorded in the autumn. Record in the trial diary the predominant weeds present at this time and give an indication of the weed burden.

|                               |                   |                   |
|-------------------------------|-------------------|-------------------|
| <u>Winter hardiness (1-9)</u> | 1 = complete loss | <b>OBLIGATORY</b> |
|                               | 9 = no damage     |                   |

Obligatory from all trials. Should be scored following the key given in Appendix 3. Scores should be made after 7-14 days after a cold period, to allow for expression of symptoms.

|   |                   |
|---|-------------------|
| <u>Plant population of control varieties (Spring)</u> | <b>OBLIGATORY</b> |
|---|-------------------|

Obligatory from all trials. In March/April count the number of plants in a linear metre of row in five places at random in each plot of each control variety.

|                             |                                 |                   |
|-----------------------------|---------------------------------|-------------------|
| <u>Grazing damage (1-9)</u> | 1 = all plants severely damaged | <b>OBLIGATORY</b> |
|                             | 9 = no plants damaged           |                   |

Obligatory from all trials. Indicate the cause of damage and advise the RL Team by e-mail and note in the trial diary what action has been taken to minimise further damage.

|                        |                                |                   |
|------------------------|--------------------------------|-------------------|
| <u>Flowering (1-9)</u> | 1 = latest flowering plot(s)   | <b>OBLIGATORY</b> |
|                        | 9 = earliest flowering plot(s) |                   |

Obligatory from all trials. Record when the earliest variety is in full flower and score all varieties relative to this. One record is normally sufficient. Estimate the date of full flowering for the earliest control variety.

(Resistance to) Lodging (1-9)      1 = all plants lodged  
9 = no lodging      **OBLIGATORY**

Obligatory from all trials. Lodging should be recorded at or just after flowering.

**NB** In order to differentiate between lodging during or just after flowering (a detrimental characteristic) from that near harvest (which can be an advantage by protecting plants from shedding losses), this character is called '*lodging*' at flowering and '*stem stiffness*' at maturity.

Plant height (cm)      **OBLIGATORY**

Obligatory from all trials. 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 a number of plants against the measuring pole and record an average height.

Stem stiffness at maturity (1-9)      1 = very weak  
9 = very stiff      **OBLIGATORY**

Obligatory from all trials. The aim is to describe the canopy at harvest. Record at or just prior to harvest. Please note that earlier lodging may have influenced this score but as the aim is to describe the canopy at harvest no allowance should be made for this. A score of 5 can describe half the plot completely flat or the whole plot leaning at 45 degrees.

Maturity (1-9)      1 = very late  
9 = very early      **OBLIGATORY**

Obligatory from all trials. There are two parts to this assessment, seed development which is carried out on the controls (including maturity controls, if one is nominated), then a canopy senescence assessment on the whole plot. These assessments together create the Maturity score of 1-9 and should be recorded just prior to swathing or desiccation. Avoid unrepresentative areas of the plot when making assessments, (for example, localised diseased infections).

To begin your assessment, use the control varieties, including any varieties nominated as maturity controls, to check for seed development by assessing 10 pods from 10 plants in each rep collected at random (see scoring key below).

Continue your assessment looking at the degree of canopy senescence, including seed development score, and score the maturity of the plot ranging from green and pliable (1) to bleached and brittle (9).

These should be recorded separately in the harvest tab of your workbook.

#### **Seed Development scale**

- 1 Seeds expanding
- 2 Most seeds translucent but full size
- 3 Most seed green
- 4 Most seed green-brown mottled
- 5 Most seeds brown
- 6 Most seed dark brown
- 7 Most seed black but soft
- 8 Most seed black and hard

#### **Maturity Scale**

- 1 Very late - Green and pliable
- Very early - Bleached and
- 9 brittle



9 All seeds black and hard

Yield (kg) and Dry matter%

**OBLIGATORY**

Obligatory from yield plots

***Plot dimensions***

|             |  |
|-------------|--|
| Plot length | the plot length harvested in metres  |
| Plot width  | the width of the harvested plot in metres from outer row to outer row plus half of the inter-plot gap on each side (in the case of bordered plots this is between the outer yielded row and the closest border row). If the inter-plot gap varies it should be measured for each plot. |

Record all plots.

The fresh seed yield must be recorded in kg. Any tare weight must be subtracted before submitting the data. Return with the yield the completed Agchem sheet and note in the diary any factors which may have affected the yield of the trial or individual plots.

The dry matter % of each plot must be determined by the oven method (see Appendix 5) and samples retained for oil content analysis ([see section 2.4](#)).

(Resistance to) Seed Loss (shedding/pod shattering) (1-9)

**OBLIGATORY**

1 = severe seed loss  
9 = no seed loss

Obligatory from all yield trials. Base scores either on observations of pod shattering on the plant or counts of seed on the ground prior to combining. In particular, check the early maturing varieties by referring to your maturity scores. Trial operator to provide an assessment key.

Combine losses (1-9)

**OBLIGATORY**

1 = severe seed loss  
9 = no seed loss

Obligatory from all yield trials. Ensure that combines are set correctly to minimise losses at harvest. Estimate the number of seeds lost per m<sup>2</sup> for the plot(s) with the most losses so that the approximate yield loss can be estimated. Note in the trial diary the cause of losses (at the cutterbar, severe lodging etc.). In particular, check the plots of early maturing varieties by referring to your maturity scores. Trial operator to provide an assessment key.

***Pests and other factors affecting validation***

Attacks by pests and any other site features must be noted. Individual plot records must be made if varietal differences are apparent. The character recorded must be clearly described and the scale clearly defined. Notes on factors that are likely to affect the validity of the trial must be recorded in the trials workbook. A cabbage stem flea beetle assessment scale is currently being developed, and will be provided during the contract period.

## 2.3 Disease assessment and recording

To be recorded from all untreated trials and DOPs using the assessment key in Appendix 1.

Any disease reaching approximately 5% infection should be recorded. Appendix 1 gives advice on the best times for assessment. For light leaf spot (LLS), experience has shown that a record of leaf symptoms in late March followed by one just before stem extension gives good, discriminating data. Trial operators should also inspect the plots at the yellow-bud stage and at late-flowering and conduct scores if it is feasible to do so and likely to give discriminating data. LLS symptoms on pods should also be scored.

All fungicide treated trials must be inspected for the failure of fungicides to control disease and if the infection level in any plot and for any disease reaches 10% or greater, a full record of that disease must be taken.

Submit these data as they are recorded. Valid data returned by 11<sup>th</sup> July can be used to calculate disease ratings and used for the next AHDB Recommended List. Data returned after this date will be stored in the database for future use.

## 2.4 Trial samples and quality tests

Sample requirements will be specified by the Field Trials Manager each year, and details will be circulated to all trial managers.

Harvest instructions and pre-printed plot labels will be sent out by the Field Trials Manager prior to harvest.

A 200g sample must be taken from each plot at the time of plot weighing, in a polythene bag for moisture and oil content determination using the oven method. Place one label on the inside of each bag and seal them by rolling over the top and securing the bags and the second label with rubber bands.

Dry matter determination can be conducted by a sub-contractor by prior arrangement with the Field Trials Manager, in which case the samples should be sent ex-combine.

Dried seed samples are required for the determination of oil content which allows the calculation of gross output. It is therefore very important that samples are despatched quickly either immediately after dry matter assessment or immediately after harvest if dry matter assessment is undertaken by a sub-contractor. A next day delivery should be requested from the carrier. Notification of sample dispatch should be e-mailed to the laboratory and Field Trials Manager at the same time.

## 2.5 Trial inspection and data validation

All trials will be inspected by an AHDB approved inspector and, in some cases, it may be necessary to visit on more than one occasion. Winter oilseed rape trials are normally inspected at early stem extension, although trials may require an earlier inspection if issues are raised by the trial operator.

The requirements for Trials Operators in respect of inspections are as follows:

1. To give reasonable access to trials to inspectors and provide full location and site details.
2. To supply the inspector with information (for example sprays applied etc.) within seven days of a request.
3. To co-operate with the inspector in making any non-routine assessments required to establish the validity of the trial (for example population counts).
4. To carry out any action agreed in consultation with the inspector. In particular it is important that any requirement to shorten plots is undertaken and that missing values are returned on any plots which have been dropped from the trial.

The trials inspection also provides an opportunity for feedback to AHDB about any problems with the trials protocol and Trials Operators are encouraged to make any points to the inspector so that these can be considered for future revisions to the protocol.

## Appendix 1 - Assessment key for oilseed rape diseases

Light leaf spot, Alternaria, downy mildew, Phoma and white leaf spot on leaves and pods.

- 1) Examine all leaves and pods in three areas of each plot.
- 2) Ignore all naturally senescent tissue.
- 3) Include all necrosis and chlorosis attributable to disease.
- 4) Estimate % infection using the descriptions below. Record the average % infection from the three areas. Interpolate values if necessary. The data must be submitted as a percentage score.

| % Infection | Leaves<br>(see EPPO sketch on diffuse symptoms)                                | Pods   |
|-------------|--|--|
| 0           | No infection observable  |  |
| 0.1         | Trace of infection   |  |
| 1           | Diseased leaves with 1 small lesion; plants with a few scattered lesions       | Terminal raceme with a few scattered lesions                             |
| 5           | Leaves appear 1/10 infected; diseased leaves with 2 lesions                    | Terminal raceme appears 1/10 infected; diseased pods with 1 or 2 lesions |
| 10          | Leaves appear ¼ infected; diseased leaves with few large or many small lesions | Terminal raceme appears ¼ infected; diseased pods with 2 or more lesions |
| 25          | Area appears ½ infected ½ green  |  |
| 50          | Area appears more infected than green  |  |
| 75          | Very little green tissue left  |  |
| 100         | Leaves/pods dead - no green tissue left  |  |

These descriptions are guides for specific levels; interpolate between these points as necessary e.g. 15%, 27%, 60% etc.

### Clubroot

Any suspected clubroot in trials must be confirmed by sampling between 10 and 30 plants within the suspected area, and its presence notified to the Field Trials Managers.

### Sclerotinia%

Should be assessed as the % of stems with complete girdling leading to 'whiteheads' within a plot.

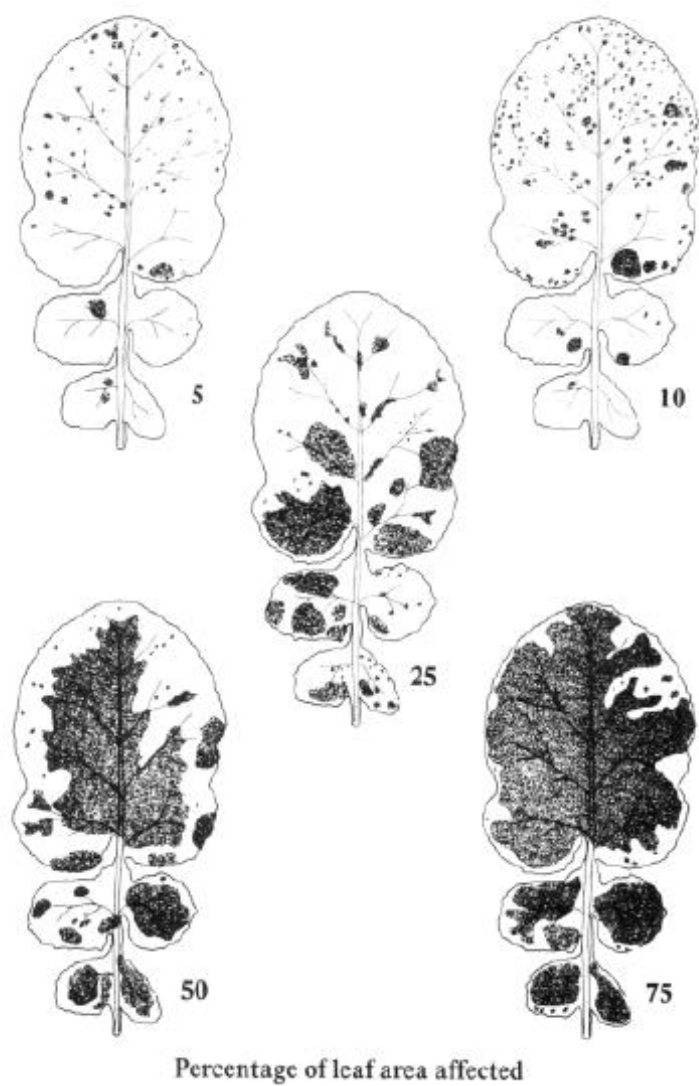
### Botrytis%

Should be assessed as the % of stems infected within a plot.

### Verticillium%

Should be recorded as the % of stems with Verticillium symptoms.

EPPO pp1/78 (3) diffuse symptoms



© EPPO (European and Mediterranean Plant Protection Organization)

## Stem canker

Stem canker must be assessed if external symptoms are observed in the trial. In **DOPs** assessment is by pulling up 30 stems per plot just before swathing. Stems should be pulled at random throughout the plot, but since access is likely to be very difficult, aim to take 15 stems from the second drill row on each side of the plot, using the first 3-5 m of the plot length. If assessments are not done prior to swathing, it must be done **as soon as possible afterwards, within a maximum of 2 days**. Both internal and external symptoms should be assessed.

For **untreated, yielded trials** stems should not be pulled up prior to harvest. An assessment of external disease symptoms can be done prior to swathing, if severe symptoms are seen, by viewing the base of the stem and using the scale below (aim to assess 15 stems from the second drill row on each side of the plot). An internal and external disease assessment can be done after swathing, it must be done **as soon as possible afterwards, within a maximum of 2 days**.

Stem canker symptoms visible on the lower (10 cm or so) external part of the stem should be scored according to the external scale column below. Using secateurs, each stem should then be cut transversely through the central part of the leaf scar region at the stem base, and the cross sectional area of them stem affected by canker symptoms assessed according to the internal column:

|   | <u>External symptoms</u>      | <u>Internal symptoms</u>        |
|---|-------------------------------|---------------------------------|
| 0 | No infection observable       | No infection visible            |
| 1 | <25% girdling of the stem     | Superficial - 1-5% surface area |
| 2 | 26-50% girdling               | 6-25% surface area              |
| 3 | 51-75% girdling               | 26-50% surface area             |
| 4 | 76 -100% girdling             | 51-75% surface area             |
| 5 | 100% girdling + stem weakness | 76-100% surface area            |
| 6 | 100% girdling + stem death    | 100% area and stem death        |

Any records made should be submitted on the standard record sheet enclosed with this protocol as soon as they are done, showing if the assessment was of internal or external symptoms and the number of plants per plot in each disease category. "Five bar gate" tally systems are most appropriate. A disease index (DI) on a 0-100 scale will be calculated using the formula:

$$\frac{(0xa + 1xb + 2xc \text{ etc.})}{(a+b+c + \text{etc.})} \times 100/6$$

where a, b, c etc. are the number of plants in each disease category

**Timing of assessments**

The following gives a guide to the timing of disease assessments

|  | <b>Leaf<br/>Production</b> | <b>Early<br/>stem<br/>extension</b> | <b>Yellow<br/>bud<br/>stage</b> | <b>Late<br/>flower</b> | <b>Prior to<br/>pod<br/>ripening</b> | <b>Swathing</b> |
|--|----------------------------|-------------------------------------|---------------------------------|------------------------|--------------------------------------|-----------------|
| Light leaf spot % - on leaves<br>- on pods | X                          | X                                   | X                               | X                      |                                      |                 |
|  |                            |                                     |                                 |                        | X                                    |                 |
| Downy mildew %                             | X                          | X                                   | X                               |                        |                                      |                 |
| Stem canker DI                             |                            |                                     |                                 |                        | X                                    | X               |
| Phoma leaf spot%                           | X                          | X                                   |                                 |                        |                                      |                 |
| Alternaria % - on leaves<br>- on pods      |                            |                                     | X                               | X                      |                                      |                 |
|  |                            |                                     |                                 |                        | X                                    |                 |
| White leaf spot%                           | X                          | X                                   |                                 | X                      |                                      |                 |
| Sclerotinia%                               |                            |                                     |                                 | X                      | X                                    |                 |
| Botrytis%                                  |                            |                                     |                                 | X                      | X                                    |                 |
| Powdery mildew%                            |                            |                                     | X                               | X                      | X                                    |                 |
| Verticillium%                              |                            |                                     |                                 |                        |                                      | X               |

For light leaf spot at the sites in Scotland, assessment should start when the symptoms first appear and continue at 28-day intervals unless the disease has failed to move up the plant since the last recording. In that case assessment should start again if the disease starts to move further up the plant. Any disease on the pods should be recorded at pod formation.

## Appendix 2 - Growth stage key for oilseed rape

|                                  | Growth Stage |  |
|----------------------------------|--------------|--|
| <b>Germination and emergence</b> | 0.0          | Dry seed                                     |
| <b>Leaf production</b>           | 1.0          | Both cotyledons unfolded and green           |
|                                  | 1.1          | First true leaf emerged                      |
|                                  | 1.2          | Second true leaf emerged                     |
|                                  | 1.X etc      | Third true leaf emerged                      |
| <b>Stem extension</b>            | 2.0          | No internodes (rosette)                      |
|                                  | 2.5          | About five internodes                        |
| <b>Flowerbud development</b>     | 3.0          | Only leaf buds present                       |
|                                  | 3.1          | Flower buds present but enclosed by leaves   |
|                                  | 3.3          | Flower buds visible from above ('green bud') |
|                                  | 3.5          | Flower buds raised above leaves              |
|                                  | 3.6          | First flower stalks extending                |
|                                  | 3.7          | First flower buds yellow ('yellow bud')      |
| <b>Flowering</b>                 | 4.0          | First flower opened                          |
|                                  | 4.1          | 10% all buds opened                          |
|                                  | 4.3          | 30% all buds opened                          |
|                                  | 4.5          | 50% all buds opened                          |
| <b>Pod development</b>           | 5.3          | 30% potential pods                           |
|                                  | 5.5          | 50% potential pods                           |
|                                  | 5.7          | 70% potential pods                           |
|                                  | 5.9          | All potential pods                           |
| <b>Seed development</b>          | 6.1          | Seeds expanding                              |
|                                  | 6.2          | Most seeds translucent but full size         |
|                                  | 6.3          | Most seed green                              |
|                                  | 6.4          | Most seed green-brown mottled                |
|                                  | 6.5          | Most seeds brown                             |
|                                  | 6.6          | Most seed dark brown                         |
|                                  | 6.7          | Most seed black but soft                     |
|                                  | 6.8          | Most seed black and hard                     |
|                                  | 6.9          | All seeds black and hard                     |
| <b>Leaf senescence</b>           | 7.0          |  |
| <b>Stem senescence</b>           | 8.1          | Most stem green                              |
|                                  | 8.5          | Half stem green                              |
|                                  | 8.9          | Little stem green                            |
| <b>Pod senescence</b>            | 9.1          | Most pods green                              |
|                                  | 9.5          | Half pods green                              |
|                                  | 9.9          | Few pods green                               |



### **Appendix 3 - Winter hardiness assessment key**

This is scored on a 1–9 scale. A high figure shows good winter hardiness

1. Total loss of plant
2. Very severe leaf damage, up to 75% loss of plants
3. Very severe leaf damage, up to 50% loss of plants
4. Severe leaf damage, severe leaf loss, up to 25% loss of plants estimated
5. Severe leaf damage, loss of lower leaves and slight loss of plants
6. Severe leaf scorch, loss of lower leaves
7. Moderate leaf scorch
8. Slight to very slight leaf scorch
9. No damage

Note: Damage is frequently not apparent until 1–2 weeks after the end of a cold period.

## Appendix 4 - Deadlines and milestones

It is required that AHDB Recommended List trials will be grown to the highest standards and that contractors will give them priority. Failure to meet the trial specification without good reason will be a breach of the contract and could result in reduced or no payment of the agreed fee for that trial.

If any operation, for example drilling, disease recording or harvesting, are delayed or carried out in poor conditions, it is the responsibility of the contractor to inform the Trials Coordinator and to explain the reasons for the delay/ problem. **Failure to inform the Field Trials Managers will constitute a breach of the contract.**

The Field Trials Managers should be notified if there is good reason that deadlines cannot be met. **Failure to return data and / or samples by these deadlines without good reason will constitute a breach of contract.**

| Report   | Deadline   | Sheets to be returned (use return macro to submit the required workbook tabs)  |
|--|--|--|
| Confirmation of sowing and notification of changes to plan | Within 5 days of sowing.   | Confirmation that the trial has been sown and if it has been sown to plan.<br>Trial layout sheet, clearly showing changes if trial has not been sown to plan |
| Site data<br>Early plot data                               | Autumn sown trials: within two months of sowing.   | Site data<br>Map of area<br>Field layout sketch<br>Trial layout<br>Trial diary   |
| Early data   | Autumn sown trials: within two months of sowing.<br><br>Some measures maybe recorded after this time.  | Early data recording tab<br>Trial diary update   |
| Disease data   | Winter crops - As soon as recorded and by 11 <sup>th</sup> July.<br><br>Data submitted by these dates will be used in the calculation of disease ratings but if disease develops after this date, records should be taken and submitted as soon as possible and will be used when practicable. | Disease data recording tab<br>Trial diary update   |
| Harvest data   | Within 5 days of harvest   | Harvest data recording tab<br>Agchem details<br>Trial diary update   |

|  |  |
|--|--|
| Response to email or telephone queries from the Field Trials Managers during the season                  | 7 days after the request or by harvest if this is sooner   |
| Response to email or telephone queries from the Field Trials Managers after the trial has been harvested | 1 working day  |
| Quality samples  | To be received by the appropriate laboratory (as designated by the Field Trials Manager) within 5 days of harvest. |

## **Appendix 5 – Dry matter and oil content determination in oilseed rape**

### ***Oven method***

An accurately weighed and recorded sample of 100g seed ( $\pm 5$ g) per plot is placed in the drier which must be at a temperature of  $100^{\circ}\text{C} \pm 4^{\circ}\text{C}$  with the air recirculation set in the range 80-100% recirculation in order to restore the temperature to  $100^{\circ}\text{C} \pm 4^{\circ}\text{C}$  as rapidly as possible. When the temperature is restored to  $100^{\circ}\text{C} \pm 4^{\circ}\text{C}$  the air regulator is set at 80% recirculation i.e. 20% fresh hot air. The regulator is critical for rapid drying. The samples are dried at  $100^{\circ}\text{C} \pm 4^{\circ}\text{C}$  for such time as is necessary for complete drying.

The dried sample is removed from the drier as soon as the sample is cool enough for accurate weighing. The dry weight is recorded to one decimal place.

Samples must be retained for oil content determination (see section 1.9)

Approved electronic moisture analysers may be used to assess dry matter: contact the Field Trials Managers.

## Appendix 6 – Guidelines for the harvesting of oilseed rape variety trials

### ***Introduction***

The choice of method of harvesting oilseed rape variety trials and the timing of operations is very important to their success. Whether the decision is made to swath or desiccate/harvest direct depends on the state of the crop and weather conditions. However, because of the varying stage of development of varieties within the trial, the timing of swathing or spraying is critical to avoid disadvantaging early or late maturing varieties.

### ***Protocol***

Plots should be trimmed to their final length before mid stem-extension to minimise the damage to remaining plants.

If the trial is to be cut direct, a header-extension must be fitted to the plot combine to minimise table losses.

Side-knives may be used on bordered plots but must not be used in other situations.

It is the trial operator's responsibility to ensure that plots can be harvested without damaging neighbouring plots and without contamination and plots should be separated adequately prior to harvest as required by hand or machine. Separation must be done in a way that does not cause seed loss in any varieties.

If it is necessary to reduce the length of any plot at harvest, clear details must be given in the trial diary sheet and the harvested plot length of each plot must be recorded and submitted with the yield data.

Notify the Field Trials Managers that harvest has taken place on the day of harvest, or first thing the following day. Yield with dry matter must be returned within five days of the harvest of the trial, together with any outstanding other data. If dry matter determination is being conducted by a sub-contractor, yield data must be returned within two days.

Non semi-dwarf varieties may be swathed or desiccated (preferably using a translocated desiccant such as glyphosate) and combined direct at the discretion of the trial manager and depending on the state of the crop after flowering. The trial must be laid out assuming that the semi-dwarf varieties will not be swathed i.e. laid out to allow the swathing of non-semi-dwarfs without damage to the semi-dwarfs. See 1.3.2.3.

Equipment to conduct either swathing or direct cutting must be available to the trial manager at the optimum time. The trial operator must indicate in the trial workbook:

- which harvesting technique has been used, giving the reasons for the decision.
- If desiccated; which product was used giving the rate and date applied.
- whether or not a header extension was fitted to the combine.
- if there were any interruptions to swathing, desiccation or harvesting operations that may affect the yield of any plots or varieties.

## Swathing or desiccation

The decision for RL trials is at the discretion of the trial operator but the technique used must be recorded in the workbook and the reasons for the decision given.

### Swathing

The stem between the lowest pods and the ground should be long enough to allow 20-30 cm of stubble onto which the cut plants can rest during the drying period. It is particularly important to have long stubble if the soil is wet. It may be impossible to satisfactorily swath very short crops and/or those that have pods on branches that are very close to the ground.

Pros:

- Well-suited to upright or slightly leaning crops.
- May be particularly suitable for exposed sites.
- Plots can be swathed during weather periods that would preclude desiccation.

Cons:

- Less well-suited for lodged or heavily leaning crops and those with high weed populations.
- Swathed crops are more prone to bird damage (such as pigeons) especially if harvest is delayed.
- *The trial must be laid out assuming that the semi-dwarf varieties will not be swathed* i.e. laid out to allow the swathing of non-semi-dwarfs without damage to the semi-dwarfs.

### Desiccation with glyphosate and direct-combining

Pros:

- This technique can be used for all varieties.
- Glyphosate translocation ensures complete desiccation.
- Glyphosate is rain-fast within four hours of application.
- Weeds, including perennial weeds are controlled.

Cons:

- On tall and/or thick crops it may not be possible to get spraying machinery through the trial without causing unacceptable damage and it may be impossible to get even coverage of the desiccant.
- Translocation (and hence desiccation) may be poor if stems are diseased, damaged or kinked.
- Results may be poor if plots are uneven and/or very weedy.
- Thin, standing plots that have not interlinked to form a canopy may be more prone to wind shedding if harvesting is delayed.

## Timing of operations

Variety trials offer a challenge to trial operator to get timings correct. Potential problems are:

- Late maturing varieties are killed before reaching full yield potential
- Early varieties lose yield through seed-loss due either to the operation of equipment or natural shedding

If trial operators are unable to get timings exactly right (for whatever reason) it is essential that they record any factors that may affect yield, so that data may be excluded if any plots/varieties have been unfairly penalised.

## Swathing

- Normally about 6 weeks from the end of flowering
- Seed in lowest pods will be dark brown
- Seed in middle pods will be green/brown
- Seed in top pods will be green to green/brown
- Harvest should be possible 1-3 weeks after swathing, depending on the weather

## Desiccation with glyphosate

The regular inspection of trials is crucial to ensure desiccation sprays are correctly timed. Inspect the seeds from the middle pods on the main stem of several plants in plots of 'medium' maturing varieties (i.e. those with a maturity rating of 5 or 6). Seeds should be at around 30% moisture.

- The optimum timing is when seeds are 66% brown and 33% green
- Early varieties may have a higher proportion of brown seeds but should not yet have turned black and with no seed lost due to the movement of the sprayer through the crop
- Later varieties may be pale green or yellow with parts turning brown but should not be entirely green

At this stage, crops should be sprayed with a modern glyphosate formulation. High water volumes (up to 250 l/ha) may be necessary on thick and/or laid crops.

## Desiccation with non-translocated herbicides

These are not recommended for variety trials as they can stop growth too fast and do not allow compensation for varieties of differing maturities. They may only be used in extreme circumstances only after consultation with the Field Trials Managers.

## Appendix 7 – Trial sites: operators and locations 2022-2026

This is the list of NL2 trials with 5-year contracts forming part of this tender. The full list of trials with specifications are in the spreadsheet: RL trial specifications H2022-26.

| <b>Crop</b> | <b>Trial ID</b> | <b>Component trials</b> | <b>Location</b>                         |
|-------------|-----------------|-------------------------|---|
| WR          | 828             | Yld T                   | Scottish Borders                        |
| WR          | 829             | Yld T                   | Mid-Lothian                             |
| WR          | 830             | Yld T                   | Aberdeenshire, Angus                    |
| WR          | 831             | Yld T                   | North Yorkshire, Northumberland, Durham |
| WR          | 832             | Yld T                   | Northumberland                          |

Yld T = Three replications fungicide treated trial.

Yld T & U = Three replications fungicide treated trial and three replications untreated trial.

DOP = Single replication disease observation plots. Not taken to yield.



## Appendix 8 – Payments for abandoned or rejected trials

### Payments for abandoned or rejected trials or parts of a trial

| Problem  | Reason for failure or loss of data   | Payment                 |           |
|--|--|-------------------------|-----------|
|  |  | Proportion of:<br>Trial | Replicate |
| Trials abandoned before harvest                      |  |                         |           |
| Trial not drilled                                    | Factors outside of the trial operator's control (e.g. weather).  | 25%                     | N/a       |
| Trial not drilled                                    | Controllable factors (e.g. missed opportunity to drill)  | 0%                      | N/a       |
|  |  |                         |           |
| Failed to establish                                  | Factors outside of the trial operator's control (e.g. waterlogging where there is no history of any problem).            | 50%                     | 50%       |
| Failed to establish                                  | Controllable factors (e.g. bird damage). See note 1  | 0%                      | 0%        |
|  |  |                         |           |
| Abandoned mid-season                                 | Excessive OSR volunteers in OSR trial if in an unsuitable rotational position (<5 yrs since OSR crop). See note 2        | 25%                     | 25%       |
| Abandoned mid-season                                 | Excessive OSR volunteers in OSR trial if in a suitable rotational position (>5 yrs since OSR crop).                      | 50%                     | 50%       |
| Abandoned mid-season                                 | Excessive cereal volunteers in 1st cereal trial.   | 25%                     | 25%       |
| Abandoned mid-season                                 | Excessive cereal volunteers in 2nd cereal trial.   | 50%                     | 50%       |
| Abandoned mid-season                                 | Factors outside of the trial operator's control (e.g. drought or waterlogging where there is no history of any problem). | 50%                     | 50%       |
| Abandoned mid-season                                 | Controllable factors (e.g. excessive weeds or pest damage). See note 3   | 25%                     | 25%       |
| Trial not harvested (but all other work carried out) | No fault attributable to the trial manager. See note 4   | 75 - 100%               |           |
| Data unavailable                                     | Incorrect treatment mid-season (trial operator or host farm error). See note 4   | 50%                     | 50%       |

| Problem                               | Reason for failure or loss of data  | Payment Proportion of: |           |
|---------------------------------------|---|------------------------|-----------|
|                                       |   | Trial                  | Replicate |
| Data unavailable or loss of accuracy. | Trial drilled with errors (e.g. laid out incorrectly, invalidating alpha lattice design) or by not following the plan correctly. See note 5 | TBC                    | TBC       |

| Trials harvested but rejected for use in the database |  |      |      |
|---|--|------|------|
| Data omitted  | Factors outside of the trial operator's control (e.g. take all or drought) | 100% | 100% |
| Data omitted  | Factors under the control of the operator at harvest.                      | 50%  | 50%  |

| Grain samples post-harvest |   |     |     |
|----------------------------|---|-----|-----|
| Samples unavailable        | Not taken or not received by testing laboratory | 90% | N/A |
| Samples in poor condition  | Samples not correctly dried.                    | 90% | N/A |

**Note 1** Controllable factors: This assumes that it has been possible to take corrective action but it has not been done. If the operator has been unable to take action due to (e.g.) weather the payment will be 50%.

**Note 2** Unless there has been written prior agreement to place trial on a site that has grown OSR <5 years ago.

**Note 3** This includes trials sown in a location that increases the risk of damage (e.g. too close to a wood or other potential sources of animal activity such as a badger sett).

**Note 4** If the trial inspector agrees that the trial should be taken to harvest then payment should be 100%. If the operator wishes to take the trial to harvest against the advice of the inspector, these payments apply.

**Note 5** A decision on payment for this problem can only be determined on a case by case basis, depending on the amount of data or accuracy lost.