

# Variety selection tool (user guide)

The Recommended Lists (RL) provides varietal information on yield and quality performance, agronomic features and market options. Use the variety selection tool to navigate RL trial data, make comparisons and identify the most promising varieties for your unique situation. Use filters to home in on varieties and agronomic merit scores to reveal the ones with the greatest genetic potential to resist lodging and key diseases.

Updated following the release of the RL each year, the variety selection tool is available for winter wheat and spring barley. In 2020, the tool will cover additional crops on the RL.

Based on winter wheat, this user guide illustrates the main features of the tool: [ahdb.org.uk/vst](http://ahdb.org.uk/vst)

## What are 'filters'?

Filters are a simple way to exclude varieties from an analysis. They allow you to specify market requirements, account for key diseases and reflect preferred agronomic features. Only varieties that meet your needs show in the scatter plot chart (bottom right).



Use the drop-down menus to select end-use (e.g. **nabim** groups), other market options (suitability for export and distilling), ripening days, latest safe sowing date and resistance to orange wheat blossom midge (OWBM).

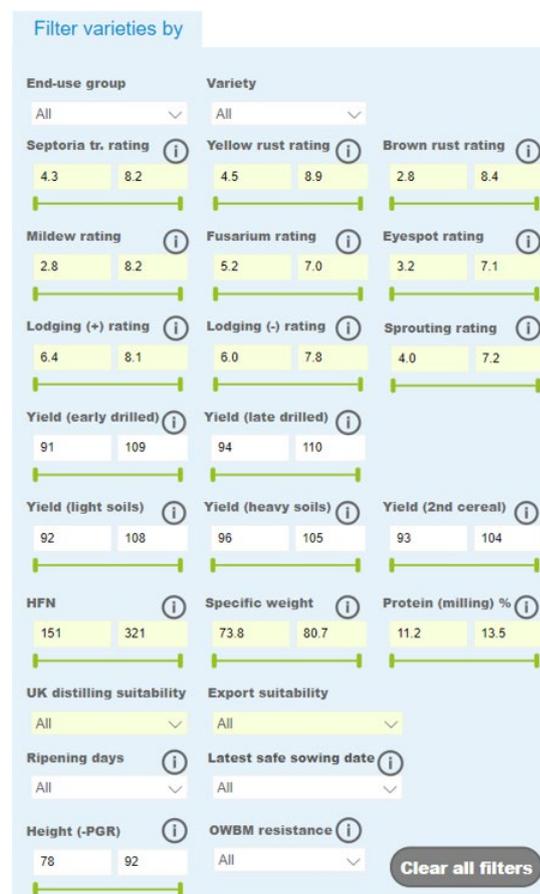


Use the green slide selectors (or number boxes) to define preferred ranges for disease resistance, lodging (+ or – PGR), sprouting and grain quality (Hagberg Falling Number – HFN, specific weight and protein). Note: For many fields, it is possible to select values to one decimal place. Often rounded up/down to the nearest whole number in the RL publication (e.g. most disease ratings), the tool provides greater selection power.

**Note: take care to not exclude unintended data (e.g. to show varieties with a published resistance rating of 7, select a range of 6.5–7.4).**

Finally, use the green sliders to interrogate supplementary yield data: sowing date (early drilled, before 25 Sep or late drilled, after 1 Nov), rotational position (second and more) and soil type (light or heavy).

Select 'Clear all filters' to reset all values to the RL default values (i.e. as published in the main RL with no varieties excluded).



The screenshot shows the 'Filter varieties by' interface with the following filters and values:

- End-use group:** All
- Variety:** All
- Septoria tr. rating:** 4.3 to 8.2
- Yellow rust rating:** 4.5 to 8.9
- Brown rust rating:** 2.8 to 8.4
- Mildew rating:** 2.8 to 8.2
- Fusarium rating:** 5.2 to 7.0
- Eyespot rating:** 3.2 to 7.1
- Lodging (+) rating:** 6.4 to 8.1
- Lodging (-) rating:** 6.0 to 7.8
- Sprouting rating:** 4.0 to 7.2
- Yield (early drilled):** 91 to 109
- Yield (late drilled):** 94 to 110
- Yield (light soils):** 92 to 108
- Yield (heavy soils):** 96 to 105
- Yield (2nd cereal):** 93 to 104
- HFN:** 151 to 321
- Specific weight:** 73.8 to 80.7
- Protein (milling) %:** 11.2 to 13.5
- UK distilling suitability:** All
- Export suitability:** All
- Ripening days:** All
- Latest safe sowing date:** All
- Height (-PGR):** 78 to 92
- OWBM resistance:** All
- Clear all filters** button

## What is 'agronomic merit'?

The RL includes resistance ratings for key diseases and lodging. However, the relative importance of each rating depends on your particular situation. With the variety selection tool, you can place greater importance on things that really matter.

The agronomic merit score (x-axis on chart) takes account of a variety's resistance to lodging and five key diseases (instead of looking at each component in isolation). Critically, it also accounts for their relative importance (via the use of weightings). Table 1 provides an example of an agronomic merit calculation.

Click on the 'Calculate Agronomic Merit' tab. For each of the ratings, select how important each one is to you (scale = low to very high).

Table 1. What is 'agronomic merit': For each variety, a score for each component listed is calculated (RL rating x weighting). Scores are then added together to give an agronomic merit score.

Component	Resistance rating*	Importance**	Weighting**	Score (rating x weighting)
Septoria tritici	6	Very high	10	60
Yellow rust	6	High	7	42
Brown rust	8	Low	1	8
Mildew	5	High	7	35
Fusarium ear blight	7	Low	1	7
Lodging (+PGR)	8	Very high	10	80
Lodging (-PGR)	7	Medium	4	28
 <b>AGRONOMIC MERIT</b>				<b>260</b>

\*RL resistance ratings use a simple scale: from 1 (least resistant) to 9 (most resistant).

\*\*Ratings and weightings shown for illustrative purposes. Importance: Very high = 10, high = 7, medium = 4 and low = 1.

## What is on the chart?

The variety scatter plot chart responds to the values/criteria selected in the filter and agronomic merit panes. The analysis excludes varieties that do not match your values/criteria. The remaining varieties show on the chart.

### Default view

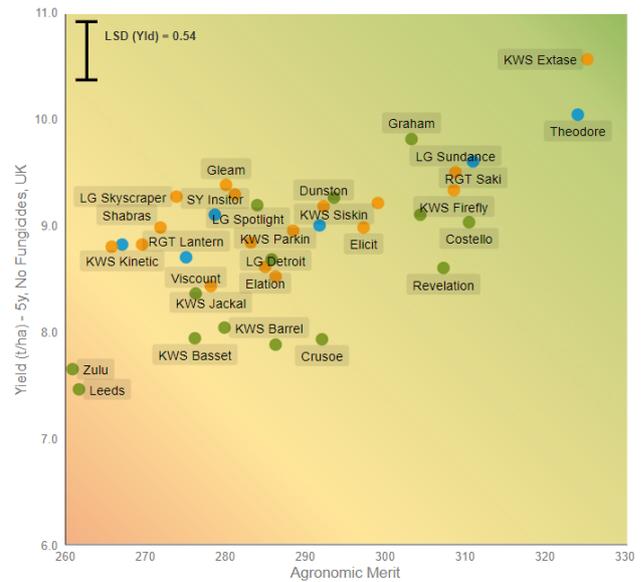
The default view shows five-year UK untreated (no fungicide) yields (t/ha) on the y-axis, agronomic merit on the x-axis and the number of years varieties have been on the RL (coloured dots).

The scatter plot illustrates the relative performance of varieties. Varieties with the highest agronomic merit and yield feature in the top right (green shading). Varieties with the lowest agronomic merit and yield feature in the bottom left (red shading).

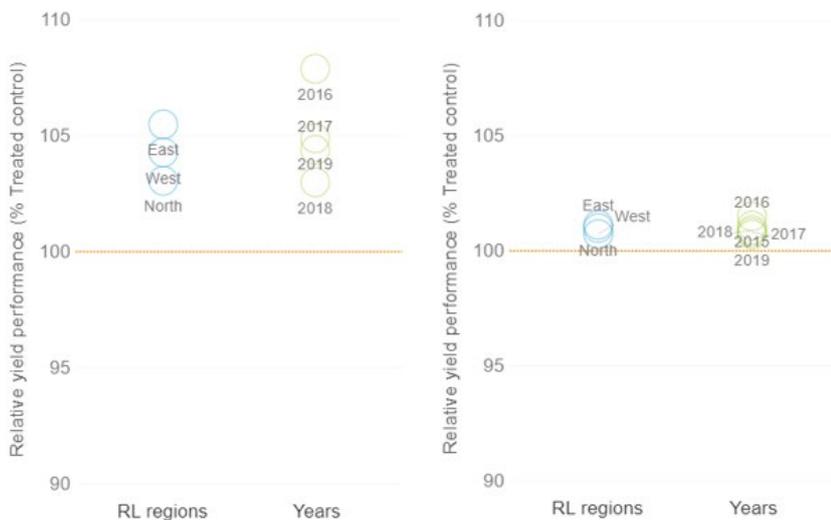
The LSD bar (top-left) illustrates the least significant difference value. Varieties that are more than one LSD apart are significantly different (at the 5% confidence level).

Right click on any circle to 'drillthrough' to variety-specific information, such as:

- Variety name
- Scope of recommendation
- Parentage
- Ratings points (with years of data)
- Number of trials
- Yield consistency (across regions and years)



The yield consistency chart shows a variety's performance relative to the treated control varieties (set at 100%). Where a variety's performance clusters (by region and year), it indicates its yield is relatively stable. On the two graphs below, the right-hand variety is relatively stable. The left-hand variety is more varied, although it always performs better than the control varieties.



## Alternative views

The coloured dots can also show a range of alternative views. For example, scope of recommendation (East, West and North), end-use groups or the number of trials (for specific situations) – use the ‘Distinguish by varieties’ drop-down box.

### Regional yield measure views

Use the buttons above the scatter plot to toggle between yield datasets (y-axis). View five-year fungicide treated (+F) yield data for UK/selected regions or untreated (-F) yield data (UK only). Note: this may also result in a change to the RL default agronomic merit scores.

The chart can also display last-year untreated data (UK only).

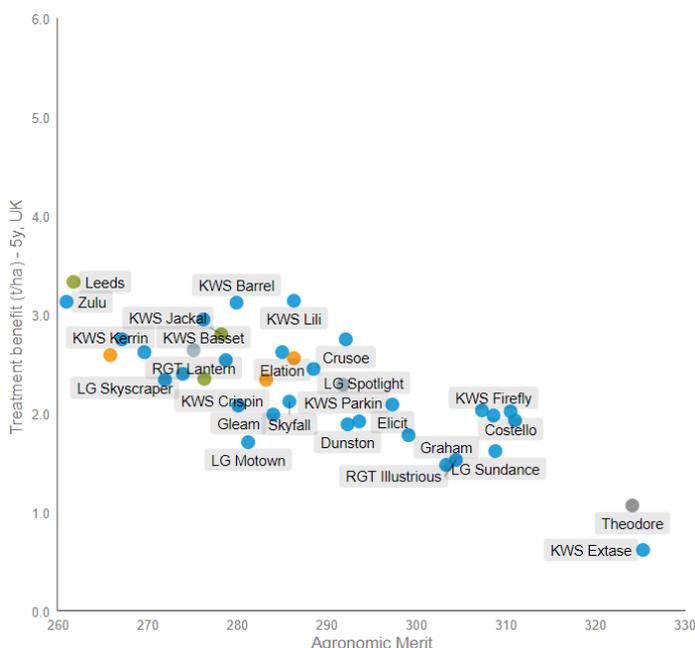
UK-only data ensures a sufficient number of trials are included within the analysis.

Note: In the absence of fungicides (i.e. untreated data), yields follow (i.e. are positively associated with) agronomic merit scores. Where crops are treated, this relationship often breaks down.

### Treatment benefit view

The treatment benefit (TB) view (UK-only data) provides a good sense of how responsive (yield) a variety is to fungicides.

Typically, varieties with higher agronomic merit ratings are less sensitive to fungicide treatment benefits.



## Top tips

Hover over ‘i’ buttons to reveal additional information.

For further guidance, scroll down to view footnote tips.

To view RL resistance ratings (x-axis) for the selected varieties in the chart, click on the desired RL rating icon in the ‘agronomic merit’ pane. To reset this view (to agronomic merit), click on any regional yield measure icon.



See footnote tips<sup>1</sup>

RL rating

