

2022 trials

Until 2020 the RL and NL trials were combined and contained over 100 varieties (as they also included NL1, NL2 and RL Candidates). Since the separation BBRO have run the RL trial series (which contain RL varieties and the RL candidates) and BSPB run the NL series (NL1, NL2 varieties and RL varieties to link the two series over years). All NL and RL trials used four replications. In 2022 each RL trial contained 37 varieties, the 22 on the 2023 RL and 15 RL candidates. Data from the NL series is combined with the data from the RL series to produce the recommended list. The RL also sowed three untreated trials to which no foliar fungicides were applied.

Unfortunately the **2022 season** presented a number of challenges to the RL trials and to sugar beet growers in general. The dry season affected establishment at some sites whilst virus yellows were generally kept at low levels by carefully timed foliar spray programmes applied by the host growers. Beet moth infected some of the more southerly trials but only to a low level. The main RL trials were lifted well before the severe December frosts.

The **seed for 2022 trials** was supplied by the breeders (each using their own pellet) as one bulk to cover both the NL and RL trials. The seed was not primed but did receive a standard Force ST and Tachigaren 70 WP seed treatment. Whilst there was a derogation for the use of Cruiser in place for the commercial crop, it was not used on the trial seed because such derogations arrive too late to treat the seed samples.

Because of the **risks of poor establishment** associated with the early season weather the eight main RL trials were sown at 8 to 9 cm spacing and then gapped, which achieved an overall population of 99,000 plants/hectare. Six of the eight trials were taken to harvest and five were used in the final results. (Four of the six NL trials drilled in 2022 were taken to yield; three of these were co-located with RL trials: five of the six NL sites were sown to a stand).

Two **early sown bolter** (ESB) trials were drilled but owing to low bolting levels at one site (drilled 8th March) only the results from the second location (at Saxham) were used (sown 23rd and 28th February).

Drilling of the main RL trials began on the 22nd of March at Swaffham Prior (a chalky loam) and the last on 12th April at Morley (a sandy loam). This date range is almost identical to 2021 but later than the long-term average. The NL trials were also sown within this time period. Seedbeds were drying fast during the drilling period.

During the season, all the trials were closely monitored for aphids and diseases. In general pests and diseases were at low levels in the trials; it was poor establishment that caused two of the RL trials to be abandoned.

Harvest was difficult to manage because dry soil conditions delayed start of the RL harvest until 11th October when the Rougham RL site was harvested.

Periods of heavy rain meant conditions were not always ideal. However, the harvest team managed to get all the acceptable trials into the trials tarehouse at Wissington by 11th November (the NL trials were harvested by mid October). One of the aims of completing harvest by the end of November is to provide information to those growers trying a sample of the new varieties in 2023. Harvest of the RL and some of the NL is by 'conventional' harvester with the analyses undertaken at Wissington factory. Some of the NL sites were harvested with a mobile tarehouse. Two of the three **untreated trials** were taken to harvest in November and the third in January 2023.

Bolting. This data is calculated assuming a final plant population of 100,000 beet per hectare. The ESB data is derived from the special trials sown between 21 February and 4 March (over the three years) and should be used when considering varieties for sowing before 15 March or in cold conditions. The five varieties marked with **X** are considered unsuitable for sowing before mid March. Osprey was only included in the ESB in 2020 and 2022 but the breeder's own data confirmed that bolting levels were reasonable and did not warrant a red **X**. There were differences between years for some varieties and the three-year table should be consulted when determining bolting risk. Normal sown bolting is recorded in the main trials.

Foliar disease observations. Infection is recorded in both main RL trials and the untreated trials. The data for foliar disease does not indicate whether a variety is resistant or tolerant to the disease, but simply the % leaf infection recorded on the foliage. No cercospora and very low levels (mean 1%) of powdery mildew were recorded in the 2022 trials. The levels of rust infection ranged from 2 to 26% giving rust ratings between 2.5 and 8.1 (where 9 = no disease and 1 = high levels).

Top size and leaf habit. This is not assessed in the RL trials but information is available from the breeder and BBRO.

Withdrawn varieties for 2024. These are KWS Evalotta, BTS5770, KWS Kortessa, Lacewing and KWS Smart Rixta