# British Beet BBRO Research Organisation Advisory Bulletin

Issued: 20th September 2023

## IN BRIEF

- Crops continue to look generally well with recent rain helping droughted crop canopy recovery on drier soils.
- Sugar levels remain variable and stubbornly slow to increase in some crops despite warm, sunny conditions. Canopy regrowth resulting in the partitioning of sugar into top growth, along with rehydration after the recent rain will have moderated sugar increases.
- Experience shows that sugar levels in crops will continue to increase as campaign progresses but protection of the canopy against foliar disease is key at this stage.
- Optimising sugar levels during harvest by ensuring crops are crowned correctly (see standard chart) and handling as gently as possible to reduce root breakage and bruising is also important. Deliver crops to the factory as soon as possible after harvesting to reduce respiration sugar losses.
- Incidence and severity of rust has increased in many crops and levels need monitoring to make informed decisions on fungicide programmes. Be wary of extending spray intervals and reducing rates as foliar diseases are likely to progress further.
- Incidences of cercospora and powdery mildew remains relatively low, but recent wet weather has increased leaf wetness and in-canopy humidity which will encourage cercospora development.
- This is a key period to be vigilant for foliar disease(s). Ensure you know what diseases are present. Use the RL disease ratings to identify more susceptible varieties. Select fungicides with activity against the diseases present.
- Cases of beet moth feeding continue to be recorded but to date the crop is proving more resilient to any damage compared to last season. However, remain vigilant for signs of increasing feeding damage.
- Cover crops survey. Please help us to understand the industry's use of cover crops by completing this survey.

## ADVISORY

**Foliar disease**

Maintain a very watchful eye for development of foliar disease symptoms in your crop. For crops destined to be harvested later this is a key stage for ensuring canopies are well protected. Remember to adhere to harvest intervals for crops likely to be harvested in September and early October.

Visit BBRO video for a short reminder of what to look for in crops this season.

Make sure you know what diseases are present. Some rust symptoms may be confused with those of cercospora. In the dry weather, rust pustules were inactive forming discrete lesions with a brown border. The lesions tend to be more irregular in shape compared to cercospora and the surrounding leaf tissue is often light green with a yellow halo, especially when held to the light.

Rust is now becoming more active, producing the characteristic reddish-brown spores which will spread the disease further in crops.

Cercospora tends to form smaller more discrete regular circular spots, sometime compared to as a ‘cigarette-burn’. The centres of the spots are light grey/tan often with black stomata which resemble black pepper grains. The borders surrounding the spots are typically reddish-purple. Cercospora lesions are initially more regular circles but as the disease progresses, individual lesions coalesce with others to form more irregular shaped lesion.

Fig 1: Know your diseases. From left to right: powdery mildew, cercospora and inactive rust (right)

Fig 2: Active and developing rust.


29/8/23


6/9/23


15/9/23

Fig 3: Progression of cercospora on the same leaf (no fungicide) Note the dew on the centre leaf which will increase disease activity.

Leaf wetness is associated with cercospora development, and the current wet conditions do create a higher risk although temperature is now cooler. The Weatherquest monitoring system measures relative humidity but not leaf wetness. Click here to see the latest cercospora risk maps. BBRO leaf sensors in crops are detecting increased leaf wetness levels. Aim to apply a fungicide to cercospora as soon as the first spots/lesions are found and especially if conditions are warm and wet. Ensure the gap between the first and the second spray is kept between 28 days. A shorter interval may be required if disease pressure is high.

The charts below provide a summary of the fungicide options for 2023. Where the risk is high avoid cutting rates as efficacy and persistence will be compromised. Revystar XE has been found to be more effective on cercospora at the higher rate of 1 litre/ha (not 0.8 litre/ha). Now it is September, Caligula can be used. The Impact product label only claims moderate control of cercospora and ramularia for up to 2 months and may provide insufficient activity in situations where disease is established, and pressure is high. It will not control rust or powdery mildew.

Cercospora is now established in the UK and strains of the fungus are potentially resistant (due to Qol resistance) to strobilurin fungicides (this is a focus of new BBRO research). Follow specific product label advice and FRAC guidelines on managing resistance. Incorporate fungicides with different modes of action into your fungicide programmes, especially where later harvested crops may be expected to require more than two applications.

| Product Example | Powdery Mildew | Rust | Ramularia | Cercospora * |
|---|---|---|---|---|
| Angle/ Priori Gold | ✓ | ✓ | ✓ | ✓ |
| Caligula | ✓ | ✓ | ✓ | ✓ |
| Impact | ✗ | ✗ | ✓ | ✓ |
| Revystar XE | ✓ | ✓ | ✓ | ✓ |
| Sulphur (e.g. Kumulus, Microthiol) | ✓ | ✗ | ✗ | ✗ |

* Potential decrease in efficacy of some products, if resistant strains are present

| Product | Max No. Apps | Max Ind. Dose l or kg ha/yr | Max Total Dose l or kg ha/yr | Active (triazole) | g ai l or kg | Active (strobilurin) | g ai l or kg | Active (SDHI) | g ai l or kg | HI (days) | Water Volume l/ha | Spray Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Angle, Priori Gold | 2 | 1 | NS | difenoconazole | 125 | azoxystrobin | 125 | | | 35 | 200-400 | Medium |
| Caligula | 1 | 1.2 | 1.2 | prothioconazole | 125 | | | fluopyram | 125 | 7 | 200-300 | Medium |
| Impact | 1 | 0.5 | 0.5 | flutriafol | 125 | | | | | 28 | Min 200 | Medium |
| Kumulus DF, SOLFA | 2 | 10 | NS | sulphur | | | | | | End Aug | Min 250 | Medium |
| Microthiol Special | 2 | 10 | NS | sulphur | 800 | | | | | End Sept | 200-600 | Medium |
| Revystar XE | 2 | 1.0 | NS | mefentrifluconazole | 100 | | | fluxapyroxad | 47.5 | 28 | 150-400 | Medium |
| Thiopron (be aware of buffer zone restrictions) | 2 | 9.7 | NS | sulphur | 825 | | | | | NS | 200-600 | Medium |

Fig 4: Fungicide options for 2023 (View BBRO Crop Protection options-2023)

**Varieties with below the average foliar disease scores on the 2023 RL**

Note that there many varieties with a cercospora leaf infection value close to the average of 6.9, in part reflecting the relatively low disease pressure in variety trials. Differences in variety susceptibility to diseases, especially rust have also been evident in the BBRO 2024 RL demo strips this season.

| Rust (Average 5.0) | Powdery Mildew (Average 4.7) | Cercospora (Average 6.9) |
|---|---|---|
| Katjana KWS | BTS1140 | BTS1140 |
| Morgan | BTS1915 | BTS1915 |
| Stewart | Annatina KWS | Harryetta KWS |
| Evalotta KWS | Hare | Katjana KWS |
| Button | Evalotta KWS | Annatina KWS |
| Lacewing | Lacewing | BTS3610 |
| Phillina KWS | Phillina KWS | Wren |
| BTS Smart 9485 | Maruscha KWS | Morgan |
| Smart Rixta KWS | | Hare |
| | | Stewart |
| | | Evalotta KWS |
| | | Adder |
| | | Lacewing |
| | | BTS Smart 9485 |
| | | Smart Rixta KWS |

**Fig 5: Variety disease scores from the 2023 RL**

**Variety Choice**

Now is the time to review your 2023 varieties and plan for the 2024 season. You can access the 2024 RL here. We would also recommend that you listen to the August BeetCast where Dr Simon Bowen and Dr Georgina Barratt discuss the merits of understanding varietal traits and ensuring they are used to advantage. Additionally, we have released a

video of the variety demonstration strips at Morley for those who were unable to get along to our recent BeetField meetings (Variety video). Now is a good time to assess the performance of your varieties in the ground before you need to complete your seed order. See the September edition of Beet Review for more information on how to do this.

**Maximise yield through optimising crowning**

Optimising sugar levels during harvest by ensuring crops are crowned correctly (see standard chart) and handling as gently as possible to reduce root breakage and bruising is also important. Deliver crops to the factory as soon as possible after harvesting to reduce respiration sugar losses.

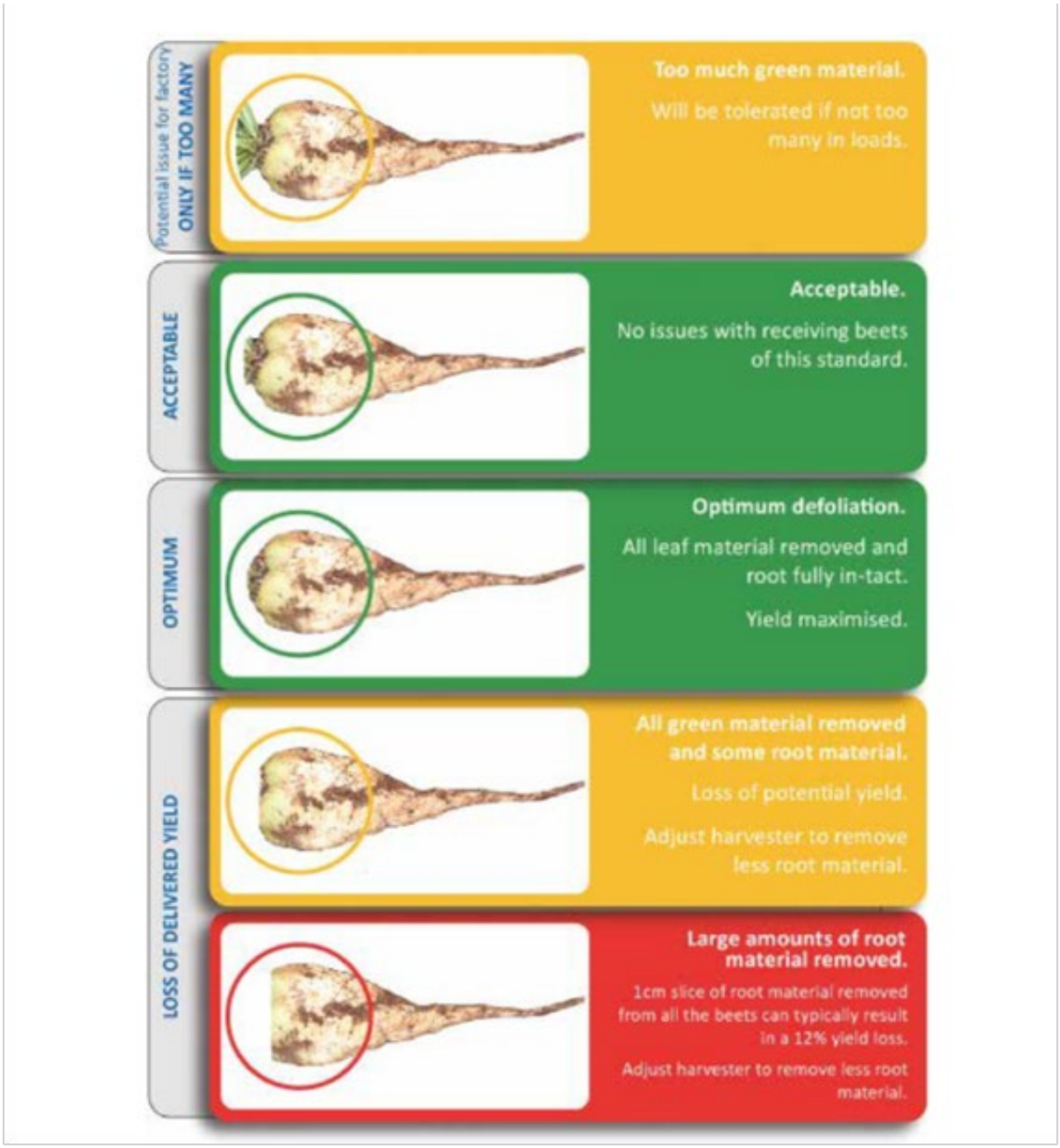


**Fig 6: Crowning standards**

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## BASIS POINTS

Two BASIS points in total (not per bulletin) have been allocated for the period between 01/06/23 and 31/05/24 reference CP/126447/2324/g. To claim these points please email cpd@basis-reg.co.uk
Two NRoSO points in total (not per bulletin) have been allocated from 1st September 2023 to 31st August 2024 - NO500860f. To claim these points please email nroso@basis-reg.co.uk.