



Issued: 21<sup>st</sup> October 2021



## IN BRIEF

- Unseasonably warm weather has allowed crops to continue to grow and improve root and sugar yields. A forecasted drop in temperatures will slow yield progression.
- However, foliar diseases such as cercospora and rust have increased in crops especially where they became established earlier. In general, applying a fungicide at this stage is very unlikely to be effective.
- In crops where foliar disease is advancing and canopy cover reducing, it is worthwhile considering making these a priority for harvesting, leaving crops with better canopies for later, where the soil type permits. Avoiding canopy regrowth following severe cercospora infection and defoliation will reduce the risk of sugar losses due to remobilisation of sugar from the root.
- A good start to the harvesting campaign has seen relatively low harvest losses and root damage, with crops delivered into factories without significant sugar loss. A change to wetter conditions will undoubtedly make harvesting and delivery more challenging and it is necessary to keep a close eye on losses and damage.
- Keep checking for any root rots such as fusarium, rhizoctonia and violet root rot during harvesting and ensure these are delivered as soon as possible to avoid further losses. Avoid storing contaminated beet crops which contain fungal rots as this will inevitably raise the clamp temperature, leading to greater respiration rates and increased sugar loss. Any parts of a field which are infected by rots should be managed separately and not mixed in the main clamp.
- During harvesting, undertake regular checks for surface losses, over-crowning, and root breakage to avoid unnecessary yield losses. Make sure root breakage is kept to a minimum especially in crops which are likely to be placed in short-term clamps for more than 5-10 days. Prioritise crops with higher damage levels for delivery.



## ADVISORY

### Foliar Diseases

Whilst some crops remain relatively free of foliar disease, cercospora did establish in many in the late summer. Following the recent rain and continued warm temperatures, levels are now increasing. Higher levels of cercospora are being reported across the beet growing areas and symptoms of rust and secondary pathogens such as alternaria and phoma are also advancing. In

some cases, increasing diseases levels can be linked to where a second fungicide was not applied or the interval between the first and second sprays was too long.

In crops that have received two timely fungicides, diseases have been kept in check, but recent warm temperatures and rain is challenging their persistence and effectivity. Remember also that fungicide resistance will also be factor.

It is unlikely that a further fungicide applied at this stage will hold further disease development and provide an economic return, especially where there are established levels of disease.



Fig 2. Advancing cercospora symptoms from left to right. Fungicides will be much less effective at the levels shown in the photo on the left. Defoliation and regrowth are visible on the far-right photo.

### **Harvesting: attention to detail**

Recognising the current challenges with beet haulage, it is important to try and keep the time beet is clamped prior to delivery to a minimum to preserve sugar levels, especially whilst temperatures remain relatively warm. Make sure there is good communication between harvesting and haulage operations. In some instances, it may be a better option to keep the crop in the ground.

Minimising root breakage when harvesting is key to avoiding accelerated sugar losses. The average sugar beet clamp loss rates are usually at 0.1% of total sugar volume/day but in poorly harvested and handled crops sugar loss can be 3-4 times greater. Losses will be even greater where temperatures are above 10°C. Follow these guidelines to minimise sugar losses:

- Excessive dirt tare – reduces ventilation in the clamp by limiting airflow between the beet although some dirt can help “cushion” beet during loading.
- Excessive green material – Similar to too much dirt, too much green matter can limit air flow in the clamp. Whilst the cleaner loader will remove a lot of excessive top material, poor ventilation in the clamp prior to cleaning will accelerate sugar loss.
- Damaged beet - minimise the amount of root breakage. Keep turbine speeds and drops as low as possible. Avoid pushing up beet on the clamp.
- Scalping - don't over-top the sugar beet crop by removing too much crown, otherwise this can accelerate sugar loss and lead to rotting, mould development or bacterial infection.

- Make sure there is someone regularly checking on the condition of beet at the clamp/pile and feeding this back to the harvester operator.

Follow our 3-step guide below to assessing harvesting losses to help maximise yields and returns:

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Guide can be downloaded

<https://bbro.co.uk/publications/harvesting-assessment-guide>

If you have registered for BBROplus via the main BBRO website (available to all growers and UK sugar beet advisors) then you can also access our Harvest Loss calculator. By entering

**2. CROWNING LOSSES**

**UNDER-CROWNED**  
Petiole > 2cm  
Target < 5%

**OPTIMAL CROWNING**  
Petiole < 2cm | Defoliated  
Target < 90%

**OVER-CROWNED**  
Crown material removed  
Target < 5%

Over crowning causes the highest level of yield losses, with approximately 1 t/ha lost for every 5% of beet over-crowned. For more details and latest test results visit: [www.bbro.co.uk/on-farm](http://www.bbro.co.uk/on-farm)

**3. ROOT BREAKAGE**

Measure the diameter of root damage in at least 20 representative roots, ideally 100 roots per sample

Root breakage diameter (cm)	For every 10% of roots in each sample	Yield loss t/ha
2-4	10%	0.5
4-6	10%	1.0
6-8	10%	2.0
8-10	10%	3.0

British Beet  
**BBRO**  
Research Organisation

**3 Step Guide to Assessing Harvesting**  
**MONITOR LOSSES TO FIND YOUR GAINS**

**1. SURFACE LOSSES**  
Collect whole beet left on surface from set area.

6 rows x 20 meters

6 kg of root equates to 1 t/ha of lost yield

Surface loss (kg)	Yield loss (t/ha)
6	1
9	1.5
12	2
15	2.5

[WWW.BBRO.co.uk/on-farm](http://WWW.BBRO.co.uk/on-farm)

your row spacing, yield (or estimated yield) and approx. crown, surface, and root breakage losses you will be assess how much yield is being lost overall. Register here: [www.plus.bbro.co.uk](http://www.plus.bbro.co.uk)



# BeetTech22

## PLAN + PROTECT + PERFORM



### Virus Yellows:

2022 projections.  
Management, mitigation  
and solutions



### PhD showcase:

Varietal advancements and improved  
understanding of pests and diseases, plus new  
technologies



### Weed Control

Herbicide specialist Pam Chambers (UPL)  
provides an insight to optimising control of  
weeds and costs



### Foliar disease:

Targeting the risk

Featuring collaborating  
industry partners, posters, networking  
and interactive displays

9:00 - 12:45

Refreshments from 8:30



8th February 2022  
Norfolk Showground

10th February 2022  
Newark Showground



British Beet Research Organisation, Centrum, Norwich Research Park, Colney Lane,  
Norwich, NR4 7UG

**Prof. Mark Stevens** [mark.stevens@bbro.co.uk](mailto:mark.stevens@bbro.co.uk) 07712 822194

**Dr Simon Bowen** [simon.bowen@bbro.co.uk](mailto:simon.bowen@bbro.co.uk) 07718 422717

**Stephen Aldis** [stephen.aldis@bbro.co.uk](mailto:stephen.aldis@bbro.co.uk) 07867 141705

**General Enquiries** [info@bbro.co.uk](mailto:info@bbro.co.uk)



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