



Issued: 11th November 2020



IN BRIEF

- As campaign progresses and as many of the crops worst affected by virus yellows and cercospora have now been harvested, root yield and sugar levels in remaining crops are improving.
- Recent warm weather has allowed some autumn yield increase in crops where there is some remaining green canopy. The young and new leaves of any canopy regrowth can be very efficient at capturing light and converting into sugar in the autumn, but adversely, a high level of canopy regrowth can drain reserved sugars.
- Keep working with your harvesting team to monitor crowning and surface root losses during harvest.
- Similarly, keep monitoring cleaning and loading operations for root damage and root losses.
- Keep focused on ensuring crops are delivered as soon as possible after harvesting to preserve sugar levels. Remember sugar losses will be greater when it is warm, and especially when roots are damaged.
- We are still receiving some reports of root rots such violet root rot, fusarium & rhizoctonia. Keep an eye open for these in crops and if found, prioritise these crops for priority lifting and delivery as disease is likely to be progressive.
- As campaign progresses, continue to practice good crop hygiene. Make sure beet heaps are cleared away completely and any leaf growth on spoil heaps is controlled. In the recent warmer conditions, we have seen some new growth in spoil heaps of earlier lifted crops. It is essential to removed potential sources of aphids and virus.
- Aphid numbers – Broom's Barn and Kirton suction traps data shows that aphids are still active, but numbers are currently in line with the long-term average. However, monitoring of BBRO autumn drilled beet in Norfolk has seen a spike in *Myzus persicae* activity in early November.



ADVISORY

BBRO's fight against virus

Some of you were able to visit the BBRO box trial site at Bridgham last week to see some of the work BBRO is doing to identify varietal susceptibility, resistance and tolerance to virus yellows and BCN. If you were not able to join us and want to find out more, we have produced a video to highlight the key aspects of the work. Visit https://bit.ly/VY_Trials where Dr Alistair Wright will explain it all, plus a cameo from both Prof Mark Stevens and Dr Simon Bowen.

Of course, the work at Bridgham is just one small part of the massive research effort BBRO is directing on behalf of the UK sugar Beet industry on controlling virus yellows.

This programme includes:

- Pesticide regulatory affairs and derogations around the use of insecticides
- New & current variety screening for virus tolerance & resistance
- Aphid monitoring programmes & new aphid and virus detection technologies
- Understanding the genetic variability of the virus yellows complex
- Use of undersown & companion cropping approaches to reduce virus transmission
- Testing of new (non-neonicotinoid) seed treatments and foliar insecticides
- Novel approaches such as the use of endophytes and the use of insect frasse to deter aphids
- Understanding mature plant resistance and how this may be exploited commercially
- How we can encourage and support beneficial insects in and around sugar beet crops
- Improving guidance on key crop hygiene measures against virus

If you want to find out more, there is plenty of information on the BBRO website under our 'News' page and also in the BBROplus section.

Harvesting 'watch-outs'

1. Whilst temperatures are dropping it is important to keep storage time and associated sugar losses to a minimum making the most of just in time delivery, keep Harvesters & Hauliers informed.
2. After a dry spring, many crops had variable emergence, this will lead to uneven root size and crown height making consistent crowning difficult. Always remember cleaner-loaders will also remove top allowing the harvester to leave more, preventing over-crowning.



3. Variable emergence can also lead to difficulties lifting small roots, ensure you check for both surface and subsurface losses to make sure maximum yield recovery.

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

Follow our 3-step guide to assessing harvesting, monitoring losses in order to see if further gains can be made.

Guide can be downloaded

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

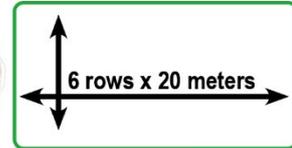
If you have registered for BBROplus via the main BBRO website (available to all growers and UK sugar beet advisors) then you can also access our Harvest Loss calculator.

By entering 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

1. SURFACE LOSSES

Collect whole beet left on surface from set area.



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

2. CROWNING LOSSES

UNDER-CROWNED
Petiole > 2cm
Target < 5%

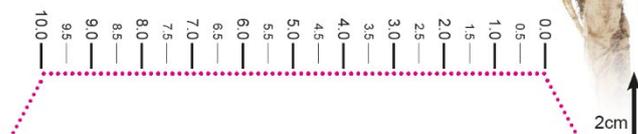
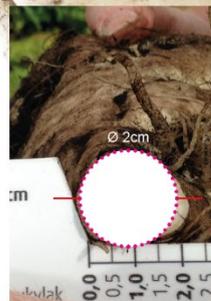
OPTIMAL CROWNING
Petiole < 2cm | Defoliated
Target < 90%

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

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



Crop Hygiene

We have just launched a BB#5 campaign. By following these basic guidelines, we hope to help reduce sources of aphids, virus and other diseases such as cercospora leaf spot ahead of your next sugar beet crop. Brief your teams on the importance of this, as remaining vigilant to potential sources and dealing with them swiftly will be key. If you want more information regarding 'green-bridging' and what to look out for, visit <https://bbro.co.uk/our-news-opinions/our-opinions/>

Brilliant Basic 5: Don't keep the **virus** alive

British Beet
BBRO
Research Organisation

<https://bbro.co.uk/on-farm/brilliant-basics/>

Farm hygiene is crucial in reducing sources of virus over the winter period and protecting your next beet crop. Virus Yellows can survive winter in aphids, infected beet material and other host plant species.

- 🍷 **minimise harvester losses** to reduce potential sources of regrowth
- 🍷 **monitor spoil heaps** and destroy any growth
- 🍷 revisit fields regularly and **eliminate groundkeepers**
- 🍷 **stop aphids green-bridging** the virus by **destroying winter cover crops** at least 5 weeks before you drill
- 🍷 **control crop volunteers and virus-hosting weeds** with well-timed herbicides and cultivations



Know your **virus** hosts

#DontKeepVirusYellowsAlive

Infected sugar beet, either groundkeepers or leaf material sprouting from clamps, is a major source of virus

Fodder and AD beet are equally susceptible to Virus Yellows, therefore all beet species should be harvested ahead of drilling the next crop. Where this is not under your control, use your powers of persuasion or pass on this message!

Aphid hosts: *Myzus persicae* has a large range of host plants. These include: brassicas, potatoes, legumes, lettuce and sugar beet

Weed hosts

BYV BMYV	
Common chickweed	Common chickweed
Common poppy	Common poppy
Corn spurry	Corn spurry
Red dead-nettle	Red dead-nettle
Common purslane	Scarlet pimpernel
Common orache	Corn marigold
Garden orache	Groundsel
	Shepherd's purse
	Field pansy



Photo right: Warm conditions resulting in new growth in soil heaps from early harvests, check and check again to remove possible over-wintering sites for pests and diseases.



EVENTS

The BBRO Winter Technical Events will be online for 2021. More info to follow.



CONTACTS

British Beet Research Organisation, Innovation Centre, Norwich Research Park, Colney Lane, Norwich, NR4 7GJ

Prof. Mark Stevens mark.stevens@bbro.co.uk 07712 822194

Dr Simon Bowen simon.bowen@bbro.co.uk 07718 422717

Stephen Aldis stephen.aldis@bbro.co.uk 07867 141705

General Enquiries info@bbro.co.uk



BASIS POINTS

Two BASIS points in total (not per bulletin) have been allocated for the period between 01/06/20 and 31/05/21 reference **CP/100686/2021/g**. To claim these points please email michele@basis-reg.co.uk

Two NRoSO points in total (not per bulletin) have been allocated between 01/06/2020 and 31/05/2021 reference **NO468433f**. To claim these points please email NRoSOCPCD@cityandguilds.com