British Beet BBRO Research Organisation

Advisory Bulletin

Issued: 16th November 2022

IN BRIEF

- **Harvesting conditions** continue to be good (to date) and losses generally small. However, don't get lured into a 'false sense of security' especially if conditions become wet. Variable crown height may cause scalping issues or result in beet getting knocked over and left behind. It is essential to keep checking for any beet losses behind the harvester. Additionally, check for root damage at the clamp, especially when harvesters may have to be run more aggressively in wetter soils to remove soil.

- **Sugar losses** - as temperatures remain warm, any post-harvest sugar losses will be accelerated, especially where there are higher levels of root damage and/or soil and tops in the clamp. Aim to keep the time in clamp as short as possible. Avoid pushing up beet at the clamp and prioritise crops with higher root damage levels for delivery, especially if they are likely to be left on farm for more than 5 days.

- **Beet moth caterpillars** - warm conditions have resulted in continued moth activity. In some cases, this is reducing the amount of new leaf growth and increasing the senescence of the older leaves, especially where previously drought stressed. It may be necessary to re-assess further yield potential and re-order harvest date accordingly. The beet moth may survive overwinter both in the larval and pupal stages. Be careful to dispose of spoil from cleaning and loading operations as this may have a high beet moth burden. Soil under Maus clamps may also have a higher pest burden; ploughing may help to bury and reduce populations.

- **Foliar disease** - warm conditions continue to result in an increase in rust symptoms, but the incidence of other foliar diseases such as cercospora remains low. Keep a close eye on the levels of disease in your crops as these can change quickly, especially following rain. You may need to consider changing your harvest plan accordingly.

- **Planning for next seasons sugar beet crop –** Autumn is the ideal time to make your soil health assessments. Doing an assessment is both simple and practical to undertake, and it will provide essential information on the health status of your soil. Remember to get any regular soil sampling organised and undertaken well ahead of next season allowing you to plan and manage to better effect. Remember to monitor soil pH carefully for any liming requirement. If concerned about BCN, especially in fields where patches of stunted growth were visible during the summer drought, consider soil testing to assess the size of the population and importantly, where to drill BCN tolerant varieties.

ADVISORY

Harvesting checks

Variable crown height may be causing some problems. In these cases, trying to scalp consistently is especially difficult. Focus on the retention of the larger, taller roots and not the smaller ones. This will mean more top being left on the smaller roots but will result in less overall yield loss. Keep checking for surface losses as larger, more protruding beet may get knocked over and disrupt flow through the shares.

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

Follow these helpful hints 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 feed this information back to the harvester operator.

For further information on how to assess crops for harvesting losses see.
https://bbro.co.uk/publications/harvesting-assessment-guide

Soil Health assessments

The soil health scorecard involves making a set of measurements shown below. It is simple to conduct and can take around 30 minutes or so to complete. Some of the measures are made in the field whilst others are measured in a soil sample sent for laboratory analysis. These measurements have been extensively evaluated and have been shown to provide a strong baseline assessment of soil heath, as well as signposting where interventions may be required.

One of the new laboratory tests of soil microbial activity involves measuring the amount of CO_2 released (the 'Solvita CO_2 burst test'). Some soil testing laboratories now offer this service.

Soil health scorecard indicators		
Physical	Chemical	Biological
Visual assessment of soil structure (VESS) most limiting layer	pH	Earthworm count
	P	SOM
	K	(Microbial activity)
	Mg	

Field measure	Measured in a soil sample

Broad guidelines on sampling are provided below. For more detailed information on this subject, especially how and what to measure, visit the BBRO website 'Soil Matters' and listen to the BBRO November Beetcast.

Sampling guidelines:

- Regular sampling and monitoring of soil health is ideally undertaken once per rotation.
- Aim to sample at the same time of year and the same point in the rotation to maximise comparability between samples.
- On balance, sampling in the autumn as the soil moistens is considered best. Ideally sample at least 1 month after any cultivations /moderate soil disturbance and/or application of organic inputs, such as manures/composts. This timing may mean that rotational sampling for soil health does not easily fit at all points of the rotation. In some rotations, this may mean sampling in an actively growing cover crop or after drilling of the next main crop.
- Identify representative sampling sites so these can provide useful data to monitor soil health and inform farm practice in soil management over time. There may be just one sample site per group of fields, or there may need to be several per field, where soil texture varies markedly.
- As for all soil sampling, the area selected should be uniform. Avoid headlands, gateways, and feeder locations unless they are specifically being targeted as a sampling site and avoid marked wheelings where possible.
- The centre point of each sampling site should be recorded. In the SBSH Partnership both mapping pins and "What 3 Words" locations were used by growers to record site locations. Aim for the sampling site to be the area within 5m in all directions of that centre point, i.e., a rough circle of 10m in diameter.

EVENTS

BBRO BeetTech23 dates confirmed (details to follow):

7th February – Newark Showground

9th February – Newmarket Racecourse

Drill training. Half day event supported by Germains, Kverneland, Monosem and Vaderstad.
22nd February – Morley
23rd February – Bexwell

CONTACTS

British Beet Research Organisation, Centrum, Norwich Research Park, Colney Lane, Norwich, NR4 7UG
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 01/06/22 and 31/05/23 reference **CP/120094/2223/g**. To claim these points please email cpd@basis-reg.co.uk
Two NRoSO points in total (not per bulletin) have been allocated between 01/06/2022 and 31/05/2023 **NO471260f** reference. To claim these points please email NRoSOCPD@cityandguilds.com