



Issued: 21st February 2023

BeetTech23 Advisory Bulletin Special

In Part Two of our BeetTech23 special we look at soil management and carbon sequestration. Below is a summary of the key practical take-home messages as well as signposting some further information on the topics covered. Click the associated images to access the video of the presentation or read on for the key points.

Champion your soils for better beet – Dr Simon Bowen, BBRO



Sugar beet crop yields are very sensitive to soil health as demonstrated by BBRO work over the last 5 years: <https://bbro.co.uk/on-farm/soil-matters/>

- Improved soil health is associated with better plant populations (linked to lower virus incidence) improved early canopy development, better drought resilience and autumn canopy retention (more frost protection).
- The soil health scorecard has been shown to be useful tool for measuring and benchmarking soil health but importantly also in identifying key areas for targeted improvement. Specific attributes are scored as red, amber or green.
- The data indicated that low soil pH, poor soil structure (VESS), low earthworm numbers and poor CO₂ burst test result (a measure of microbial activity) where the attributes are most frequently scored as red.

- Managing pH is a basic agronomic tool and may need urgent attention. Sugar beet dislikes acid conditions resulting in backwards early plant development. Additionally, acidity reduces soil biological function and nutrient availability.
- Additionally, low biological activity identified using the CO₂- burst test (Solvita test) is also associated with under-performing crops.
- The use of FYM and cover crops are strongly linked with improved soil health measures. Reduced tillage intensity and incorporation of straw was also shown to be associated with improvements but the effect was slightly less consistent across the range of fields tested.

[For more information of soil health including a helpful video and Soil Health Scorecard template for growers is available on our website \(click here\).](#)

Carbon Monitoring – Dr Georgina Barratt (BBRO) and Dr Iain Gould (University of Lincoln)



- Managing carbon is becoming an established aspect of monitoring farm performance and our understanding of how we can improve carbon management is key.
- Organic matter amendments can increase soil carbon levels and resilience.
- Soil type dictates the amount of carbon a soil can hold so targets should be set accordingly.
- Sugar beet can capture lots of carbon as it stays green for a long time.
- The sugar beet flux tower project is an innovative approach using paired fields with a flux tower in each field to assess differing management approaches.
- Further GHG measurements using a portable analyser and the use of the soil health scorecard will advance our understanding. Watch this space!

Whilst thoughts turn to seed beds and drilling, don't forget to get your drill tested to ensure it will be working at its optimum. [Click here for more information.](#)



EVENTS

BEETCHAT – virtual online growers meeting

Join us 2nd March 13:00 – 14:00 for an informal meeting regarding the Virus yellows forecast and any actions required.

Got a question?
Join our on-line discussion session

British Beet
BBRO
Research Organisation

BeetChat
Thursday 2nd March:
13:00 - 14:00
Preparing for 2023 sugar beet
season including Virus yellows forecast

Click here for easy access

The poster features a green background with a photograph of a sugar beet field. A cartoon beet character with a smiling face and a red mouth is positioned on the right side of the field. The text is overlaid on the image in white and green colors.



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