



Issued: 9th June 2023



## IN BRIEF

- We continue to see an east-west divide in aphid numbers with colder and windier weather conditions in the east limiting population development over the last seven days. The warmer sunnier weather forecast may trigger an increase in aphid numbers.
- Wingless aphid thresholds are being reached in some non-Cruiser crops and these must remain the priority for checking.
- In general, Cruiser treatment appears to be effective for 8-10 weeks from drilling. Cruiser-treated crops drilled before the end of the first week of April should be now checked carefully.
- Crop development remains a little variable across the beet area. More advanced crops are at 8-12 leaves, but many are at the 4-6 leaf stage with relatively small leaves.
- Pest (bird, mammal & invertebrate) grazing and damage continue to affect crops. Cases of suspected free-living nematode and cyst nematode damage have been reported. Immature white cysts of BCN may now be visible on infested roots.
- Cases of blackleg symptoms, typically associated with *Aphanomyces* infection have been confirmed at the BBRO Plant Clinic.
- Multi-crowning has also been increasingly reported too. Usually this is down to loss or damage to the growing point caused by grazing by birds, animals or pests such as thrips.
- Applying nutrients as foliar sprays can help slower developing crops as well as recovery from pest, disease, and herbicide damage.



## ADVISORY

### Aphid monitoring

The BBRO aphid monitoring network provides a guide to the number of aphids in your area. Wingless aphids are being counted on plants at 46 sites. (Please refer to the BBRO website for latest information [Aphid Survey Dashboard - BBRO](#)).

- Grey map point = no data received
- Green map point = data received; no aphids found
- Amber map point = data received with aphids found but below spray threshold
- Red map point = data received with green wingless aphids found and spray threshold reached.

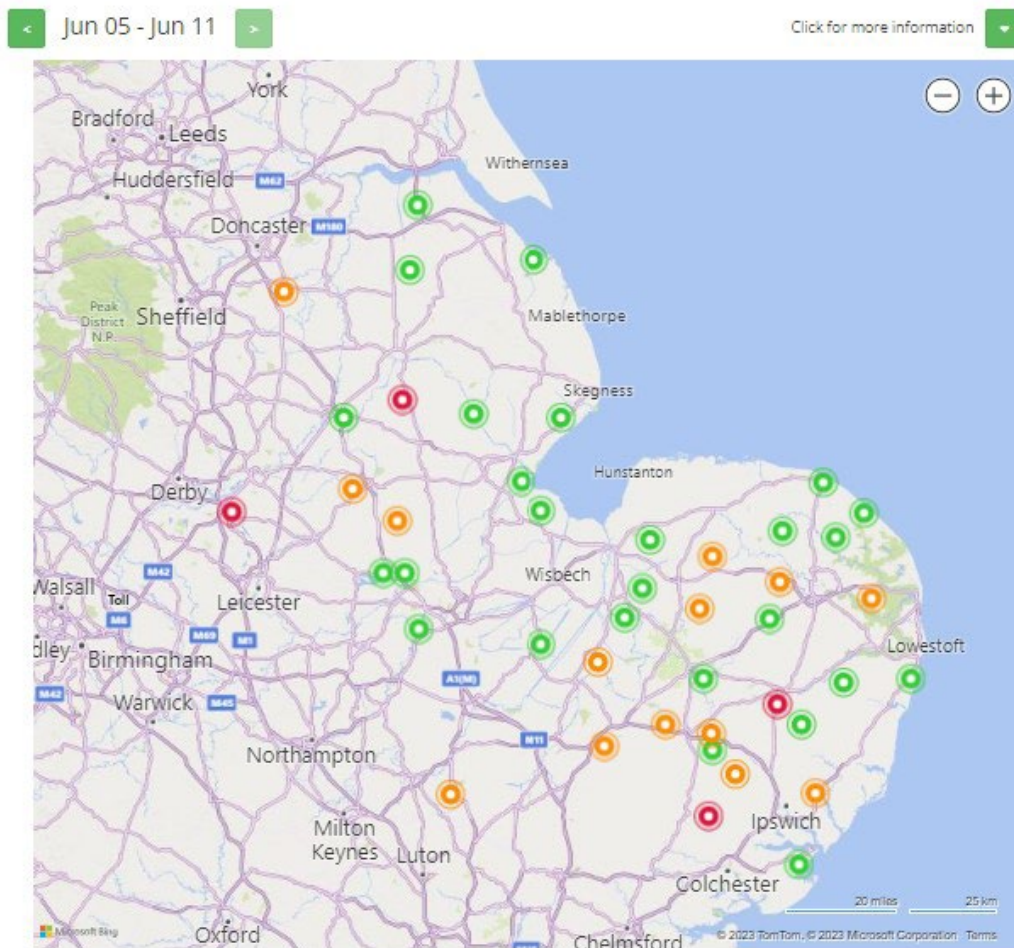


Fig 1: BBRO aphid monitoring map on 8<sup>th</sup> June

Aphid numbers are variable across the monitoring network but we continue to see larger numbers in the west than in the east. Colder, windier weather in the east is considered to be the factor holding aphid populations back. This may change rapidly with the forecasted warmer conditions over the next few days. Ladybird and other beneficial populations are also relatively small but now increasing, reflecting the low abundance of aphid prey. It is essential to check non-Cruiser treated crops for aphids. To date, there has been a lot of diversity in the species of aphids being found in crops. With regards to virus transmission in sugar beet, there are three species that can be vectors: the peach-potato aphid (*Myzus persicae*) the potato aphid (*Macrosiphum euphorbiae*) and the black bean aphid (*Aphis fabae*). **However, *Myzus persicae* is the key species as a vector of virus.**

For more info on aphid identification see <https://www.bbroy.co.uk/media/50728/aphid-id-home-print.pdf>

Remember that the BBRO network is a general guide to aphid numbers. We know that these can vary greatly between fields and even within. It is essential therefore that you assess your individual crops for aphids.

### Foliar insecticides

At this stage of the season the threshold trigger for spraying is 1 green wingless aphid per 4 plants (5 green wingless aphids per 20 plants).

Available aphicides include: InSyst and Teppeki or Afinto (only one application of either flonicamid-based product is permissible) and Movento. Where a foliar insecticide is required in non-Cruiser crops, we recommend starting with InSyst for faster knockdown and then using Teppeki/Afinto as a second spray. Movento must be used as your third spray option (for non-Cruiser SB crops only).

### Crop development and nutrition

Whilst most of the earlier crops, drilled into good soil and seedbed conditions are now rapidly developing canopies, some of the later crops sown into wetter conditions and where there was significant rainfall, are slow to develop leaf canopy. A range of pests are grazing on crops, including some free-living nematode feeding on roots which are also contributing to some slow and backward growth.

Where the growing point has been damaged, or eaten, the plant may respond by producing more stems/petioles. This is called multi-crowning. Plants usually grow away to produce normal roots but can initially develop a squatter, bush-like growth habit.



Fig 2: Multi-crowning in 2021 showing how plants grow on to produce normal roots despite large number of petioles.

Blackleg symptoms (Aphanomyces) are evident in some fields too and resulting in areas of backward plants across fields. Fig 3: Black leg symptoms (right)



Root damage by both free-living and cyst nematodes may also be stunting growth in parts of fields. Immature white cysts of BCN may now be visible on infested roots as shown in Fig 4 (left).

It is important to optimise the supply of nutrients to crops to assist with leaf growth, especially where root systems have been compromised by pest and disease.

- If you have had a large amount of rainfall, some of the applied nitrogen may have been lost from the rooting zone of young plants. Plants may appear stunted with small leaves (with little progressive growth after period of warmth) pale and may show redding and the petioles. Applying a small additional amount of top-dressed nitrogen may still be an option.
- Apply 10-20 kg N/ha will ensure availability in the topsoil profile. Be mindful to keep within the limits of N-Max (120kgN/ha)
- Apply manganese and magnesium as **foliar** sprays as soon as there is sufficient canopy (4-6 leaf stage). Don't delay and do not wait until symptoms appear.
- Where crops appear persistently backwards and/or are affected by pests, check the potential cause by looking at the root system. Applying some foliar nitrogen and phosphorus along with the manganese and magnesium as a **foliar** treatment can help with getting nutrients into the plant to encourage growth.
- Manganese and magnesium products are also likely to provide some sulphur. If not, consider applying some sulphur. Boron and zinc may be low in crops on sandy, thin, and higher pH soils but unlikely to be essential to many crops at this stage.
- If applying foliar nutrients, target a programme of application of 1-3 kg/ha of each nutrient at each application. Remember, foliar feeding is best undertaken as a 'little but often' approach. Avoid applying foliar nutrients to plants in hot sunny conditions.



## EVENTS

**BBRO will be attending:**

**Cereals 13<sup>th</sup> June (NFU Sugar Hour)**

**Morley Innovation Day. 22<sup>nd</sup> June. Book via: [niab.com/morley-innovation-day-east-anglia-22-june-23](https://niab.com/morley-innovation-day-east-anglia-22-june-23)**

**Royal Norfolk Show – 28th and 29th June (Innovation Hub)**



## CONTACTS

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)



## 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](mailto:cpd@basis-reg.co.uk)

Two NRoSO points in total (not per bulletin) have been allocated between From 1st June 2023 to 31st August 2023 - NO500858f and from 1st September 2023 to 31st August 2024 - NO500860f To claim these points please email [nrroso@basis-reg.co.uk](mailto:nroso@basis-reg.co.uk). New points for BASIS 2023 will be issued shortly.