British Beet BBRO Research Organisation Advisory Bulletin

Issue 6: 10th June 2025

IN BRIEF

- BBRO Aphid Watch now live, with reports of threshold being reached in several areas. Data are collated from in-field aphid counts across 20 plants. Several sites are now past the 16-leaf growth stage.
- Variable numbers of winged *Myzus persicae* and *Macrosiphum euphorbiae* found in BBRO yellow water pans. Of the 1112 aphids caught (as of 4th June) only 3 have tested positive for either BMYV and BChV.
- Beet are generally looking well and benefitted from weekend rain, but some crops remain of variable size and growth stage too. Some plants remain small but good leaf numbers, but there are also crops still at 2 true leaves stage - these are still at risk of infection.
- Confirmation of beet moths on traps and their caterpillars are being found in several crops, particularly south Suffolk/Cambridgeshire. Activity was being favoured by the recent warm, dry conditions, though risk should drop with ongoing cooler, wetter weather. Please advise BBRO of any observations to help determine species and identify extent of pest.
- Signs of both tortoise beetle and leaf miner reported.
- The first sample of BCN has been recorded in the Plant Clinic.
- Early control of weed beet recommended.
- Fat-hen seems to be the weed of the moment, but still time to get this under control. Join Pam Chambers for a 'drop-in session' at BBRO Brettenham herbicide trial site – 2nd July.
- BeetCast June: New profile and increasing portfolio of research

ADVISORY

Aphid Watch

Please keep an eye on the Aphid Watch website to keep up to date with aphid migration Aphids Site Map - BBRO. Click on any circle to see the history of any aphids found or treatments made.

Currently, there appears to be a higher concentration of aphids in the Suffolk area, with a number at threshold; one site has already received 2 sprays.

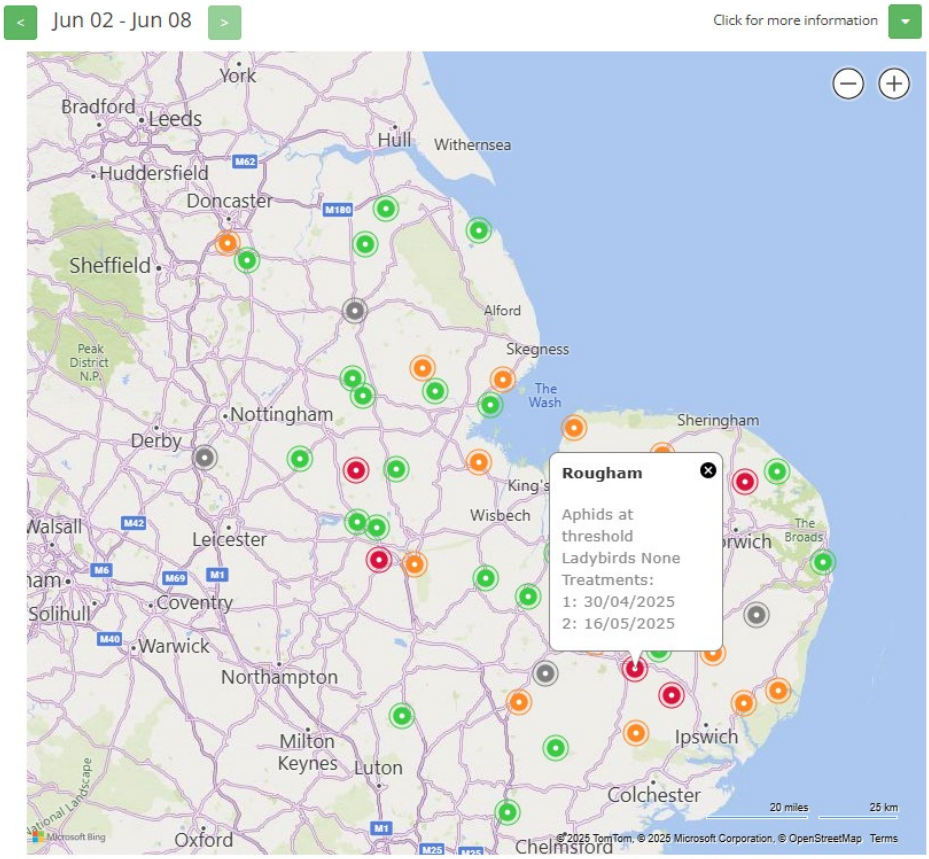

Figure 1: Screen shot of Aphid Watch June 8th.

The data collated for the Aphid Watch map are from direct in-field counts. Whereas the yellow water pan network is from the catches collected from across the growing area. Any *M. persicae or M. euphorbiae* caught in the yellow water pan are tested for BMVY and BChV (we are currently unable to test for BYV). As of the 9th June 1296 aphids had been tested of which three were positive for virus. Two of these have been found at Linton Cambridgeshire on the 29th May and one aphid at Morley on the 2nd June.

In most areas the cavalry has arrived in the form of beneficial insects, and in many areas the crop has reached the 12-leaf stage, when mature plant resistance (MPR) will start to develop. MPR is related to leaf number and not plant size, so it is worth checking leaf development closely before commencing spraying. The threshold for treatment remains as: 1 green wingless aphid per four plants up to 12 true leaves. 1 aphid per plant 12-16 true leaves.

The following sprays are available:

There are 3 products available for aphid control (should you reach threshold), with the new Bayer insecticide product, Sivanto Prime receiving an updated label allowing use past the 9+ leaf stage. The options are:

- acetamiprid (Insyst). Mode of action: through contact and ingestion
- flonicamid (either Teppeki or Afinto – but not both). Mode of action: affects digestive system
- flupyradifurone (Sivanto Prime). Mode of action: through contact, affects central nervous system. Sivanto Prime – 9 or more leaves unfolded (BBCH19)

Avoid using pyrethroids, such as Hallmark, where at all possible, especially in the early phases of crop growth. Not only are aphids highly resistant to pyrethroids (95%+), but their use will also negatively impact on the build of beneficials such as lacewing and ladybird larvae.

Beet moth update

We have had further reports of caterpillars in the crop, these are believed to be Beet moth. Confirmation of beet moth adults has been made from BBRO pheromone traps. Beet moth favours a dry, warm climate. The current cooler temperature and much welcomed (albeit sporadic) rain should help to keep this pest on hold. However, infestations can quickly reduce canopy vigour; especially second generations in August/September.

Figure 2 (right): Beet moth caterpillar

Symptom progression of Beet Moth

Symptoms begin as the caterpillars start to eat and develop within the centre heart leaves of the beet plant, these symptoms can resemble boron deficiency or downy mildew. On closer inspection the caterpillars (in various colours) can be found within the damaged area of the heart leaves.

The caterpillars continue to cause damage as more of the heart is affected and the caterpillars may become increasingly hard to find. The extent of damage will depend on the number of caterpillars and in many cases, plants will continue to produce new leaves. Where damage is more severe, the affected crown may be killed and lateral growing points stimulated to produce leaves, resulting in multi-crowning later in the season.

Figure 3 (right): Beet moth. A rather non-descript mottled brown moth.

Beet Moth Control

Heavy rainfall or irrigation will give some control. Currently, pyrethroids (e.g. Cythrin 500) are the only chemical option, but timing is crucial as for best effect the spray needs contact with the target; high water volumes will be beneficial too to penetrate the canopy. Efficacy will be reduced once the caterpillar burrows into the root. However, please be aware Cythrin is a pyrethroid and will reduce beneficial numbers; BBRO are currently investigating alternative products (including an emergency authorisation) and ultimately their availability for commercial use.

Other pests

There have been several sightings of the tortoise beetle, which is a relatively new pest to the UK. It feeds on the leaf, often on the underside and has been known to skeletonise the canopy, however, it does favour fat hen and is more likely to be found around the headlands. It is one to watch but currently not of major concern. The same could be said for leaf miner, with some signs of leaf damage being found in the crop. Again, this is currently at a low level, although up to three generations are possible in a season.

Figure 4: (right) Tortoise beetle

Figure 5a and b (below): Leaf miner eggs and leaf miner damage with the larvae visible within the leaf.

Weed Control – info supplied by Pam Chambers, British Sugar

Don't forget just one weed beet/m^2 can produce over 1,500 viable seeds and reduce yield by 11%. If weed beet are present then plan to reduce seed return to the soil. In SMART varieties seed return must be prevented, all bolters must be removed.

Sugar beet seed can survive in the soil for a significant time, at Broom's Barn it was found to survive for 18 years.

Hoeing – last chance before canopy closure

Some forward crops are now at canopy closure and tractor hoeing is no longer feasible, however a significant number could still be hoed this week if weather conditions allow. There are a few crops that have a mixture of beet at the cotyledon stage and 12 plus true leaves, ensure hoes are set to avoid covering the newly emerged beet with soil. Hoeing will stimulate weed growth so where possible aim to apply a final herbicide after hoeing and before canopy closure.

Cutting – usually considered for large populations of weed beet

Commence cutting at the end of flowering before the seed becomes viable. Cutting usually starts first week of August and is carried out at 3-week intervals. With a three-cut regime expect 95% control, with one cut around 70% control. Cutting is usually considered where large populations of weed beet are present, i.e. more than 10,000/ha

Weed wiping – generally start in early July, weed beet must be young and soft

Using glyphosate can be effective but it needs to be applied when stems are still soft and able to take up the glyphosate, it must be carried out before flowering. Remember to check glyphosate labels to ensure weed wiping is allowed and don't exceed number of applications permitted. Glyphosate must be translocated through the plant to prevent seed formation, so it won't work well on older plants and in dry conditions.

Hand pulling – suitable for low population

For low populations of weed beet, less than 1,000/ha and removal of bolters this is an effective option, ideally pull before the seed set, break stem and leave in the field. After seed set commences then plants need to be removed from the field. Check all SMART varieties for bolters and hand pull.

Fat-hen, Fig leaved Goosefoot and Orache control

As always, there is much debate about controlling *Chenopodium* species, which belong to the same family as sugar beet. At the BBRO Broadleaved Weed trial at Brettenham in Norfolk situated on the Breck, fat-hen is the dominant weed species (Photo. 1.) The sugar beet variety is KWS Nelda so conventional and Conviso One chemistry has been used in the trial. Where fat-hen is still a problem and needs controlling then phenmedipham + ethofumesate + oil should be used, add in metamitron and lenacil if canopy closure is still some way off to give residual benefit. If Conviso One has still to be applied and fat-hen is well established then consider adding in ethofumesate + oil.

Figure 6a (left). Untreated plot on Brettenham site, 6b (right) treated plot on same site.

Programmes	25.04.25	09.05.25	21.05.25
Conventional – best programme	phenmedipham 320g ethofumesate 150g metamitron 700g oil	phenmedipham 320g ethofumesate 150g metamitron 700g lenacil 100g oil	phenmedipham 320g ethofumesate 150g metamitron 700g lenacil 200g oil
SMART		Conviso One 1.0 L/ha	
Spray interval between T1 and T2 longer than normal due to crop stress from wind blow, drought and bird damage.			

EVENTS

Join us at one of the following events:

Cereals – 11th June, 11:00 for NFU Sugar Hour.

Morley Innovation Day 19 June 2025 - The Morley Agriculture Foundation

NIAB Star event – 24th June

Royal Norfolk Show – 25th and 26th June – Innovation Hub, stand no. 333, avenue 11 and 12.

2nd July – Brettenham Herbicide Trial 10am – 'drop-in session'. Please register your interest.

CONTACTS

British Beet Research Organisation, Centrum, Norwich Research Park, Colney Lane, Norwich, NR4 7UG
Prof Mark Stevens mark.stevens@bbro.co.uk 07712 822194
Francesca Broom Francesca.broom@bbro.co.uk 07710 285689
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 01/06/2024 – 31/05/2025 - CP/138145/2425/g. To claim these points please email cpd@basis-reg.co.uk
Two NRoSO points in total (not per bulletin) have been allocated from 01/9/2024 – 31/05/2025 NO503154f. To claim these points please email nroso@basis-reg.co.uk.