British Beet BBRO Research Organisation Advisory Bulletin

19th June 2024

IN BRIEF

- The cool, wet and windy weather over the past few weeks has helped to limit aphid build up. We are therefore not expecting the aphid numbers to build hugely in the coming week. However, if you are at threshold, it would still be worth spraying to protect the crop, particularly for any slow growing or backward crops.
- **Expect Cruiser treatment to be effective for 8-10 weeks from drilling.** If nearing or beyond 8 weeks check crops, especially if below the 12-leaf stage.
- We are seeing a myriad of small issues across the growing region, such as; multicrowning, bacterial leaf spot, downy mildew, leaf miner, BCN, FLN, bird damage and low pH but none of these are at a level to cause widespread concern at the moment.
- 85% of the UK crop is now at or beyond the 6 true leaves stage, though crop development remains variable across the beet area.
- Foliar nutrition may help slower crops develop.
- Some cases of herbicide damage have been identified following the use of Lenacil – see our video for further info.
- Goliath trial for 2024 is underway. See this short video from Dr Alistair Wright on how the trial is inoculated with virus.

ADVISORY

Virus yellows and aphid update

As of 9am on 19th June 1575 aphids have been tested for virus. 4 found positive for beet polerovirus (BMYV and/or BChV). No positives found since 13th May.

The number of aphids caught in the YWP network remains low, with a total of 4 *Myzus persicae* in the 10th June catch and 3 in the 13th June.

This is due to the unseasonably cold and wet weather, that has effectively halted aphid population growth.

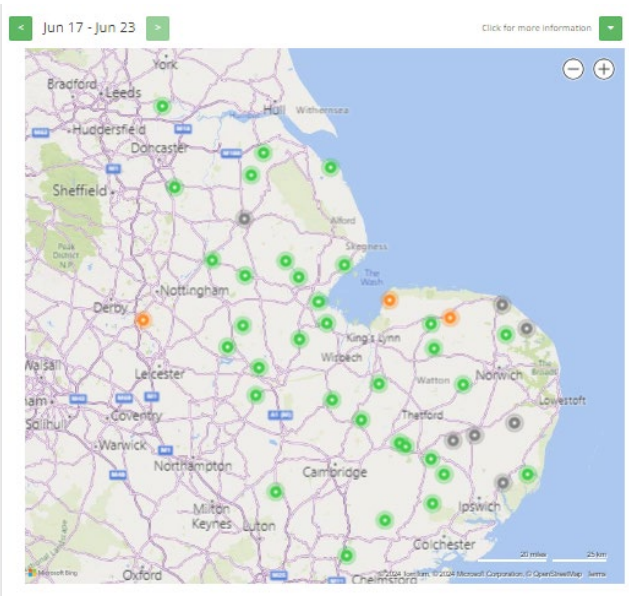


Figure 1: Aphid survey map from the 19th June 2024.

Pests and diseases

There are several issues to be found in the crop, these mainly pertain to the weather conditions impacting on; soil structure, nutrient levels and anaerobic conditions. Issues have only been found at low levels and in most cases the crop will grow away as the weather improves.

Multicrowning - This is usually down to earlier thrips or bird damage removing the main growing point of the plant. Plants usually grow away to produce normal roots but can initially develop a squatter, bush-like growth habit.

Leaf miner - Both eggs and larvae have been found in the crop, but currently at a relatively low level. The cigar shaped eggs can be found under the leaf but the main tell-tale signs are translucent patches on the leaves where the larvae have burrowed between layers, these patches will then turn necrotic. Once the larvae enter the leaf they are very hard to treat, but the first generation are not normally an issue.

Downy Mildew - The first signs of downy mildew have been recorded in the crop. It is usually a sporadic issue and is probably being favoured by recent weather. The classic symptoms are a purple/grey fungal bloom in the heart leaves. With time this can also lead to yellowing on older leaves which could be confused with virus yellows.

Figure 2: Downy mildew

Bacterial leaf spot - This has again been caused by the recent wet and mild conditions. Remember that this is a bacterial disease and fungicides will not provide any control. Therefore, be careful not to confuse bacterial leaf spot symptoms with those of cercospora, and therefore applying a fungicide unnecessarily. Bacterial leaf spot symptoms are more irregularly-shaped spots/lesions than cercospora, with a tan centre and deep brown/black borders. The spots can coalesce into areas of necrosis which may then collapse leaving holes in the leaf.

Fig 3: Bacterial leaf spot - note the more irregularly-shaped lesions.

BCN – Now is the time to check for BCN, particularly in low lying or stunted areas of the crop. The small immature white cysts will be visible to the naked eye in late June, early July. They will be feeding on the root system and cause bearding/ excessive lateral rooting. Note where found and use a tolerant variety in future.

Fig 4: Beet cyst nematodes

Caterpillars – We are seeing an increase in caterpillars, most likely Silver Y moth but again not at levels to currently cause concern. To determine species the caterpillars do need to pupate, so please keep watch for the moths and report anything unusual.

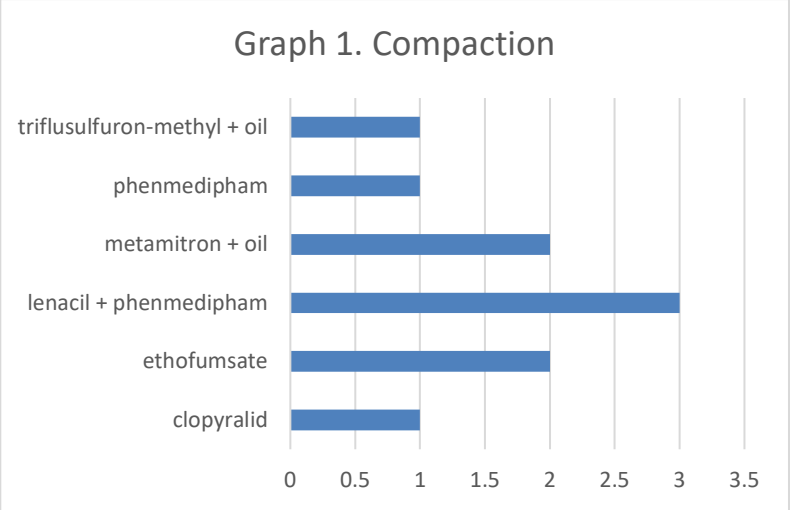
Weed control – info provided by Pam Chambers (British Sugar) Poor crop growth – is it all down to herbicides?

This season has seen herbicides and in particular lenacil (e.g. Venzar 500 SC) being blamed for poor crop growth and in some cases loss of plants. In the BBRO weed control trial on light sandy soil site the two treatments below were included within the protocol. On the 7th June using the "canopeo app" canopies were measured, the lenacil treatment had a canopy cover of 2% whereas the treatment without lenacil had 15% canopy. It will be interesting to see how these canopies compare in a few weeks' time following the final post emergence sprays. Further information on the light land soil trial and the impact of lenacil can be seen on the BBRO video 'lenacil update for sugar beet growers'.

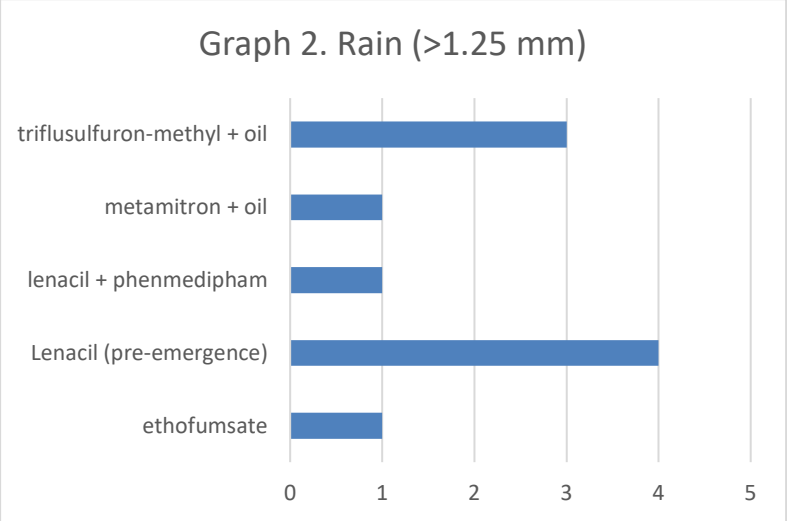
Treatment 1	
Actives applied	**Rate of application**
phenmedipham 360 g a.i./litre	2.0 l/ha x 3
metamitron 700 g a.i./litre	1.0 l/ha x 3
ethofumesate 500 g a.i./litre	0.3 l/ha x 3
adjuvant	0.5 l/ha x 3

Treatment 2	
lenacil 500 g a.i./litre	0.2 l/ha fb 0.4 l/ha x 2
metamitron 700 g a.i./litre	1.0 l/ha x 3
ethofumesate 500 g a.i./litre	0.3 l/ha x 3
adjuvant	0.5 l/ha x 3

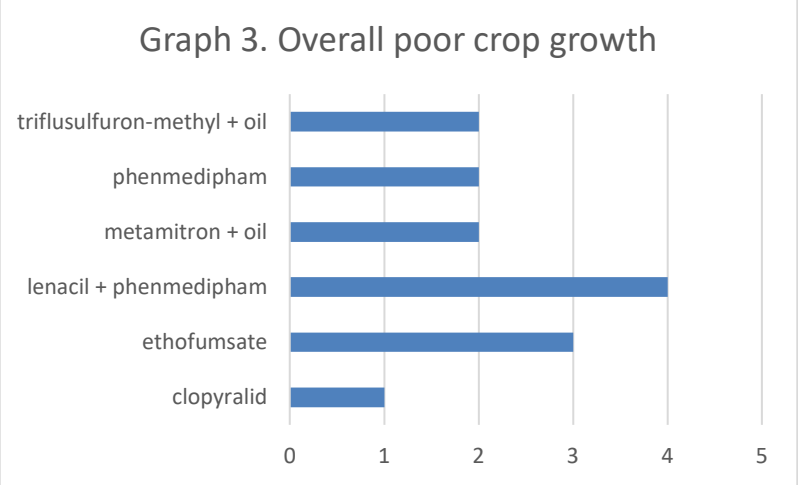
In a ‘normal’ season the treatments listed above would not have caused any issues, but it is useful to remember how herbicides can impact on the growth of sugar beet plants when they are stressed. Graphs 1 to 3 show the impact of herbicides applied to crops that are suffering from compaction, rainfall and overall poor crop growth. A score of 0 means no impact and a score of 5 means high impact(thanks to Mark Hemmant for supplying the data that was generated by BBRO a few years back). Note at the time of issuing, lenacil was still permitted as a pre-emergence application, now it can only be applied at the post-emergence timing.



Advice:- check that herbicide tank mixtures are supported by manufacturers and follow their guidance on rates and crop stages as to when products can be applied. If a crop is looking stressed, check for reasons



why before applying further herbicides, the use of biostimulants and foliar nutrients could be beneficial this season before and after herbicide applications on small backward crops.



Clopyralid products

There has been some confusion and a few mistakes with clopyralid products this season so double check labels and recommendations before applying. There are three different strengths of clopyralid currently being marketed, and there is also a similarity in brand names between metamitron and clopyralid products. Although it should not be an issue the maximum individual doses for metamitron will vary according to product labels, but generally 1.0 l/ha is the maximum amount applied to sugar beet crops.

Table 1

Product Name	Active	Strength	Maximum Individual Dose
Goltix 70 SC	metamitron	700 g a.i./litre	2.0 l/ha
Metrix 700 SC	metamitron	700 g a.i./litre	3.0 l/ha
Matrica 400	clopyralid	400 g a.i./litre	0.5 l/ha
Shield Pro	clopyralid	400 g a.i./litre	0.5 l/ha
Vivendi 200	clopyralid	200 g a.i./litre	1.0 l/ha
Lontrel 600	clopyralid	600 g a.i./litre	0.33 l/ha

Emergency Authorisation approved. (See here for full details)

This Emergency Authorisation allows a second foliar spray of 'InSyst' on non-Cruiser SB treated sugar beet crops to aid control of the peach-potato aphid (*Myzus persicae*) and prevent virus yellows infection. Key points:

1. Application must only be in sequence - following a first foliar spray of 'InSyst' and a second foliar spray of flonicamid (e.g. Teppeki);
2. This EA is for non-Cruiser SB treated crops only. You MUST not spray Cruiser SB treated crops, in accordance with the stewardship agreement (Cruiser stewardship);
3. As part of the stewardship agreement around this EA, the following information must be recorded by the user and submitted to British Sugar by 30 August 2024;

    - The date(s) and location(s) of any second application of 'InSyst' and the number of hectares treated in accordance with this emergency authorisation
    - Aphid counts and crop growth stages at the time of decision
    - The basis of the decision making on whether to apply foliar spray(s) during the susceptible growth stage period, including any 3rd foliar application (i.e. a second application of 'InSyst').

Stewardship of Cruiser SB crops - reminder

There are several key conditions summarised below that must be adhered to:

- Careful and targeted use of herbicides is required to minimise the number of flowering weeds in treated sugar beet crops and reduce the risk of indirect exposure of pollinators to neonicotinoids. The use of BASIS recommended herbicide programmes must be adopted by growers and their agronomists. Ensure all drill operators are aware of the guidelines associated with the use of Cruiser SB treated seed, particularly ensuring all drilled seed is covered.
- No thiamethoxam seed treatment i.e. Cruiser SB may be used on the same field area for 46 months from the date of sowing treated sugar beet seed in 2024.

- **No Cruiser SB treated seed can be used after 1 June 2024**, this includes placing the product on the market, use, storage and disposal of unused stocks. This is regardless of any unfavourable weather conditions, e.g. extreme wet, that may result in a delay to drilling and also includes any re-drilling of treated sugar beet from crop loss (due to wind blow or capping) on the same field area for 46 months from the date of sowing treated sugar beet seed in 2024. This is to minimise the risk of residues being acquired by succeeding flowering crops or weeds and hence exposing bees and/or other pollinators to neonicotinoid seed treatments.

EVENTS

Join the BBRO at the **Royal Norfolk Show – 26th and 27th June**, Innovation Hub, stand no. 325 and visit the educational Discovery Zone to see the sugar beet crop being presented to over 10,000 school children.

BBRO Demo Farms – these will take place in **AUGUST 2024** – details to follow.

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BASIS POINTS

Two BASIS points in total (not per bulletin) have been allocated for the period between 01/06/23 and 31/05/24 reference CP/126447/2324/g. To claim these points please email cpd@basis-reg.co.uk
Two NRoSO points in total (not per bulletin) have been allocated from 1st September 2023 to 31st August 2024 - NO500860f and NO503154f from 1st September 2024 – 31st May 2025. To claim these points please email nroso@basis-reg.co.uk.