British Beet BBRO Research Organisation Advisory Bulletin

15th August 2024

- Increasing signs of beet moth and second-generation Silver Y caterpillars found in crops.
- Widespread but low levels of foliar disease can be found across the growing region; including cercospora. Therefore, please check crops for this, rust and powdery mildew, which are all favoured to varying degrees in the current weather conditions. Target varieties with a lower disease rating for initial assessments but do keep a watch for other diseases too.
- Keep on top of your weed beet and bolters – if in doubt 'Pull them out!'
- Visit the BBRO Autumn events to view the 2025 Variety strips, hear more about cercospora and disease control and also the latest information from BBRO work regarding cover crop use.
- Listen to the August Beet Cast for Cover Crop discussion and a catch-up with sugar beet stalwart Tricia Cullimore on 50 years in beet.
- Where Cruiser treated seed has been used (in 2023 or 2024) please adhere to the stewardship document regarding rotational crops. This includes cover crop mixes. (see below or visit the Cruiser Stewardship document).

ADVISORY

Beet moth

We are seeing the first signs of the beet moth caterpillars in the crop, particularly in areas that have been previously affected. This is likely due to favourable weather conditions and migration of adults over recent weeks.

Fig 1: Adult moth

Symptoms and symptom progression

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 adult moths may also be seen in amongst the canopies.

Fig 2: Caterpillar (larvae)

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. Unfortunately, in some cases all the growing points may be affected.

As the damage progresses you may find a second generation has started with numerous moths flying around the canopy again and more damage done to the heart as well as the surface layer of the tap root.

Fig 3: Damage to growing point can be quite severe

Risk Factors

Continued warm dry autumn conditions will benefit the spread and development of the moth into early October. A wet, unsettled, and cool autumn will help to hinder the development of the pest. However, if the tap root is damaged this could result in infection by secondary pathogens and further deterioration of the tap root leading to localised rotting.

The plant may recover from the damage to the heart leaves by forming multiple crowns around the damaged centre. However, there is also the risk that a hollow crown results from the damage and that could lead to further tap root damage from water settling or from frost later in the winter.

Management and Mitigation

Cool, wet weather usually deters beet moth development, and heavy rain events and/or irrigation usually drowns the caterpillars. Ploughing down beet remnants that have been impacted by beet moth may well help to decrease the risk for 2025.

There is the potential for a foliar applied insecticide to be used but this will require large water volumes to penetrate the canopy. Therefore, results may well be variable as it is the caterpillar within the heart leaves that the insecticide needs to target. Experiences with pyrethroids in the UK to date are variable and limited; this re-enforces comments from Europe too.

There are a few products (e.g., Cythrin) that have general caterpillar control on their label. It is important that you follow the recommendations on the label. In many cases, this includes the use of high-water volumes.

It is important to keep all remaining and future leaves as green and healthy as possible for as long as possible to mitigate the impact of beet moth damage. Ensure disease control is as robust as it can be and consider the use of Mn & Mg to support canopy recovery.

Please check your crops, especially in the Bury factory area, monitor symptoms and review against planned harvest date. Limited or late damage on early lifted crops will have little risk or impact on yield. More serious damage or later lifted crops will become increasingly at risk of yield and quality damage, suggesting earlier harvesting than planned could be advisable. Please discuss this with your British Sugar Agricultural Manager to aid with decision making and planning.

Fig 4: Silver Y moth

Silver Y Moth

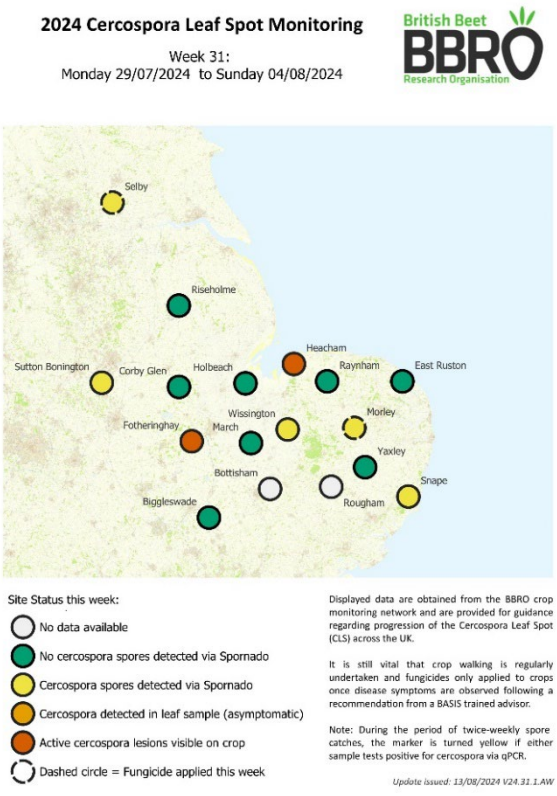
Several reports of Silver Y moths and their caterpillars have also been received, which we presume are now the second generation. Damage by these caterpillars can be confused with that caused by hailstorms, but in severe cases this pest can skeletonize leaves. Unlike the Beet moth, there is a threshold for treatment (5 green caterpillars per plant) however, the only product authorised for treatment is the pyrethroid Cythrin, which will also impact beneficials in the crop.

Foliar Disease

We are seeing low levels of varying diseases throughout the crop and urge growers to keep a close eye on development and keep on top of spray programmes. However, if current dry spell continues, spraying fungicides will be problematic especially if crops are wilting, remain flat for extended periods and/ or are losing older leaves. When spraying for disease try and apply products when the canopy is upright and the inner leaves turgid. This is best done early and before the heat of the day.

Keep spray intervals tight, ideally between 21-28 days, being mindful of harvest interval required.

Cercospora control is of high priority, as spore detection has been widespread over the past 6 weeks. If possible, spray at the first sign of disease to avoid establishment within the crop. Ensure you follow the BBRO updates [Cercospora Risk].



The latest results from the BBRO Spornado spore monitoring network (week 31) show the areas in which cercospora spores have been captured during the week commencing 29th July.

The following points remain pertinent to disease control in 2024:

Eight-point plan for autumn disease management

1. Know what disease(s) are in your crop in order to select the best fungicide options (see back pages for available fungicides).
2. Cercospora leaf spot appears to be an increasing problem in the UK and strains of this fungus are potentially resistant (due to QoI resistance) to strobilurin fungicides. If in doubt contact the BBRO for help with disease identification.
3. As seen from previous BBRO trials, do not apply fungicides too early, wait for early symptoms to show.
4. Conversely, do not apply products too late otherwise effective disease control will be difficult for the remainder of the season.
5. Always follow label recommendations for applying products at the correct growth stage.
6. Ensure the gap between the first and second, or second and third applications, is kept to within 28 days to prevent significant re-infection occurring between treatments.
7. Ensure water volume recommendations are adhered to and are not cut back.
8. Know where specific varieties are sown within fields to monitor any variety-disease interactions.

Weed beet and bolters

Keep on top of weed beet and bolters as these have increasingly been seen in crops. One weed beet could produce 1,500 viable seeds, this is of particular concern for anyone using ConvisoSmart technology. One of the key stewardship actions to preserve the longevity of this chemistry is to ensure scrupulous removal of bolters to prevent seed shed and a problem developing where the seed bank becomes contaminated with weed beet tolerant to ALS-chemistry. Consequently planning, meticulous management and attention to detail is vital – and cost effective for all growers.

- ✓ Failure to adequately control ConvisoSmart bolters breeds a new generation of weed beet that cannot be controlled with ALS-chemistry; there are no new technologies currently in development to manage this new problem
- ✓ Begin to identify fields with bolters which will require removal and have a plan / book labour to achieve this in a timely manner
- ✓ The most effective technique is hand-pulling; this is best done when soils are moist and using a fork to help remove the whole plant (including root)

- ✓ Ideally plants should be destroyed pre-flowering and removed from the field; snapping the stem close to the base can be an option at this timing, although beware of the potential for re-growth
- ✓ If plants have started to flower, then uprooting bolters and removing from the field is vital to minimise the risk of mature seed being shed
- ✓ Bear in mind fields will need to be walked methodically (e.g. a tramline at a time) and at least twice (min. 3–4-week interval) to try and best ensure all bolters are removed

Rotational requirements for Cruiser treated crops.

Please remember the following-crop restrictions apply for subsequent crops planted on the same area of land as Cruiser SB sugar beet drilled in 2024.

• Any crop excluded from the below table should be considered 'restricted' i.e. a minimum of 32 months from drilling of Sugar Beet.
• The 32-month restriction applies to those agri-environment options that allow flowers to grow or appear on the same ground on which Cruiser SB treated seed was sown in 2024.
• Cover crops (including mixes) must also follow the 32-month restrictions.

Further information available here.

EVENTS

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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 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.