British Beet BBRO Research Organisation

Advisory Bulletin

IN BRIEF

- Crops are at a wide range of different growth stages, with more advanced crops at the 6-8 leaf stage and other later drilled crops at cotyledon to 2- leaf stage. Crops need very careful tracking to ensure operations and applications are made at the right time.
- Some re-drilling of crops due to capping has been necessary. Check any later drilled crops for germination and emergence.
- There is a fair amount of herbicide damage to crops showing across the beet growing region, especially following applications made towards the end of the first week and beginning of the second week of May. Subsequent applications need to be managed carefully to avoid further damage. There are some differences being found between varieties so make sure you check these carefully.
- Reports of bird damage are also increasing, especially as the dry period continues. Some flea beetle damage has also been seen where standard seed has been used. Again, keep a close eye on crops at this critical stage.
- The BBRO Aphid Survey is now underway. 29 *Myzus persicae* caught over the first two weeks of which one was found to be carrying virus. Currently seed treatments are working well, however, warm weather over the weekend will encourage further flight.
- Blackleg is also being observed in several later drilled crops too.

ADVISORY

Crop damage from herbicides

There has been a number of reports of crop damage this week from sugar beet herbicide treatments and some indication that there is a difference in sensitivity between varieties. Photo 1 shows a beet plant from a 19th April drilling which is suffering from bird and herbicide damage . Photo 2 shows the same variety of beet drilled two days earlier but under much less stress.

Most crops will recover from herbicide damage, especially when we get some rain, but it is possible that in some areas of affected fields, where damaged plants are under greater stress, that they may not recover.

Key points to consider for safer weed control:

- When using adjuvants observe the guidelines on temperatures, not just at spraying but for four hours either side of application. **If in any doubt spray in the evening or early morning.**

- Remember there is a difference between mineral oils and vegetable oils with respect to crop safety, the mineral oils will be harsher both on the crop and the weeds.
- Check manufacturers labels and technical information for **ALL** products included within a tank mix to ensure there is support, especially for complicated mixes.
- Spray intervals need to be considered carefully where crops are stressed from the recent weather conditions or from other factors such as nutrient deficiencies and bird/pest damage.
- Beet crops will be sensitive to herbicide damage following periods of rapid growth this is not only at the cotyledon/first true leaf stage but also at the two to four leaf stage.

'Broadacre' – two spray post-emergence programmes

Do not use the 'Broadacre' approach if crops are under any kind of stress. If you are using 'Broadacre' then co-formulated products can be substituted for the straight materials and will often offer better and safer control. The 'Broadacre' programme can commence from 'beet first pair of true leaves 1cm long' with the second spray 14 days after the first. Do be very careful where beet is growing rapidly and where relative humidity (RH) is high, cloud cover low and temperatures high. If in doubt reduce the number of actives and revert back to a more conventional approach. Table 1 gives details of the 'Broadacre programme'.

Table 1. Broadacre programme	
Active/Product	Rate/ha
phenmedipham (160 g/l)	2.5 l/ha
ethofumesate (500 g/l)	0.4 l/ha*
triflusulfuron-methyl	20 g/ha*
Venzar Flowable[(1)]	0.4 l/ha
metamitron (700 g ai/l or kg)	0.5 l/ha
Oil (mineral or vegetable 90% +) according to temperature *Should second application be delayed and weed size increased, the dose of these products may be increased to 0.8 l/ha and 30 g/ha respectively. [(1)]Check supported rates for Venzar 500SC formulations.	

Black-grass control

Black-grass continues to emerge and in Suffolk mid-April drillings it is now at the 2 to 3 leaf stage, but growth stages vary across the beet growing region.

- Do not tank mix blackgrass control products with herbicides being used for annual broad-leaved weed control
- Consider the use of a water conditioner in hard water areas
- Ensure that black-grass is actively growing before using graminicides – remember that post emergence ethofumesate containing products will have some effect on black-grass and this may reduce the level of control from a graminicide
- Water volumes need to be kept up where spray applications are being made to black-grass that is tillering, or where beet canopies may be preventing spray penetration onto the black-grass
- Ideally try to control black-grass as early as possible

Weed beet

Weed beet are also beginning to show in the more forward crops and are now, or very soon will be, at a stage where they can be hoed. Hoeing can reduce weed beet populations in the crop by up to 80%, but to be effective it should be done before the beet have 4 true leaves, after which point they can 'ride around' the hoe blade and re-set. Sharp L-blades are the best at this stage for their cutting action.

Hand pulling is the most effective method of control and we will cover this in subsequent bulletins.

Crop nutrition and foliar feeds.

Don't delay with getting your nitrogen on crops. Crops are developing canopies rapidly and will need adequate nutrients. Sufficient nitrogen is essential for early leaf growth. The rapid early leaf growth of some crops can result in a deficiency of nutrients. This is more frequent on light soils especially in dry conditions as well as in poorly consolidated and cloddy seedbeds. Symptoms can be seen as early as the 2-4 leaf stage. Manganese deficiency tends to be the most common at this early stage and the symptoms are intially, often just a pale colouration to the young leaves. The more typical yellow speckling (see photo) tends to develop later.

Symptoms can be transient and may disappear after rain or when growth slows. However, it is worthwhile applying manganese to crops growing rapidly on lighter soils or in rapidly drying conditions to help canopy establishment.

Most recommended rates will give between 0.5-1 kg of manganese per hectare which is sufficient. Follow up applications may be needed in high risk soils and/or where symptoms continue to show.

Where crops are stressed and/or suffering from herbicide damage, the use of foliar bio-stimulants and other broad spectrum foliar feeds is an option. BBRO does not have consistent data to support routine use and some products can be expensive. There is no doubt that in some situations there are genuine responses to these products, but it is not possible to predict where responses are more likely. If applying to a herbicide damaged crop, ensure there is both sufficient and active canopy growth before applying as most products require active uptake by the leaves. An actively growing 4-6 leaf stage crop is likely to respond better than a damaged 2-4 leaf stage crop. Where products contain nitrogen, follow recommendations carefully, especially water volumes and avoid spraying in hot sunny conditions to minimise the risk of scorch. A 'little and often' approach is the most likely to produce a response.

Aphids. *Myzus persicae* have now been caught in low numbers across all factory areas, slightly earlier than anticipated, and one of the 29 individuals so far tested for virus was carrying Beet mild yellowing virus. However, seed treatments will continue to protect the crop for up to 12 weeks from sowing, but numbers of aphids are anticipated to increase over the coming weeks, particularly if the weather remains warm and settled.

If you would like to receive the weekly aphid survey results please email: Francesca.Broom@bbro.co.uk

Leaf miner. So far, no reports of leaf miner eggs or damage have been recorded in the crop. However, if found please can you contact the BBRO, as we are currently looking for potential trial sites for this pest.

EVENTS

Beet Yield Challenge.

Year 1 is now complete, and the general report will be available for download from our website from the 1st June. The four finalists will be announced at Cereals on the 13th June, on the NFU stand. Each entrant will receive an in-depth, individual report on their 2017-18 crop with advice for improving production in future.

2018-19 has already brought some unique challenges and we would encourage growers to sign up for BYC asap, as the monitoring of crops in a poor year will provide crucial data for managing such issues in future. For further info please visit our website https://bbro.co.uk/on-farm/beet-yield-challenge/

Rougham Demo Farm: Target 100,000 – 25th May

Please see website for further details and to book a place. https://bbro.co.uk/events/

Summer Open Days.

You should have received your email invitation to the BBRO summer open days, this week. We hope you can attend.

CONTACTS

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BASIS POINTS

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