British Beet BBRO Research Organisation

Advisory Bulletin

Issued: 14th May 2021

IN BRIEF

- Following recent rain and some eventual warmth, soil temperatures have been raised to above 10°C in most areas, and crops are making progress, although later drilled crops are still emerging. Earlier drilled crops are now marking the rows with the more advanced plants at the 4-6 leaf stage. It is vital that any non-emerged areas are investigated as soon as possible. Any re-drilling at this stage will carry more than a 30-40% yield penalty.

Fig 1 and 2: More advanced plants on BBRO Demonstration Farms

- Most crops have received at least one herbicide application, although rain is encouraging a flush of weeds so remain vigilant for follow up applications. If the first post-emergence herbicide is yet to be applied, and the crop is still at a very young (early cotyledon) stage or is looking backwards, try to leave if possible, to reduce the risk of checking plants. This will depend on what weeds are present and how quickly they are growing. Weeds such as bindweed and cleavers can be controlled at slightly later stages if need be. To date there have been no reports of herbicide damage but be wary of increased susceptibility in rapidly growing crops.

- Several reports of insect and bird damage to emerging crops have been highlighted with shot-holing symptoms linked to flea beetle and cotyledons lost to bird grazing. There have also been some reports of blackleg symptoms. In most cases, rapid growing conditions will allow crops to recover and grow-away from the symptoms.

- There have been some reports of leaf miner eggs on plants so be vigilant and continue to monitor crops for both eggs and larvae. The treatment threshold is when the number of eggs and larvae exceeds the square of the number of true leaves. For example, a plant with four true leaves would need a population of 16 or more eggs and larvae to warrant treatment. Several pyrethroids (e.g., Hallmark) are available for leaf miner control but please remember the consequences of such treatments on beneficial insects for aphid control.

- Vacancy: Trials and Research Support Assistant – one-year fixed contract commencing July. We are recruiting for a lively and enthusiastic individual to support differing aspects of trial and research delivery throughout the year to join our team in 2021.

ADVISORY

Aphids

The full BBRO yellow water pan network is up and running and aphid activity is currently very low. Some reports of aphids have been received on the crop, but these have been of the potato aphid (*Macrosiphum euphobiae)* and not the peach-potato aphid *(Myzus persicae).* However, we expect the first *Myzus persicae* aphids to begin to appear on crops in the next 5-10 days (two-winged *M. persicae* were found in yellow water pans this week). The situation is changing daily so make sure you check the very latest update on the BBROplus website.

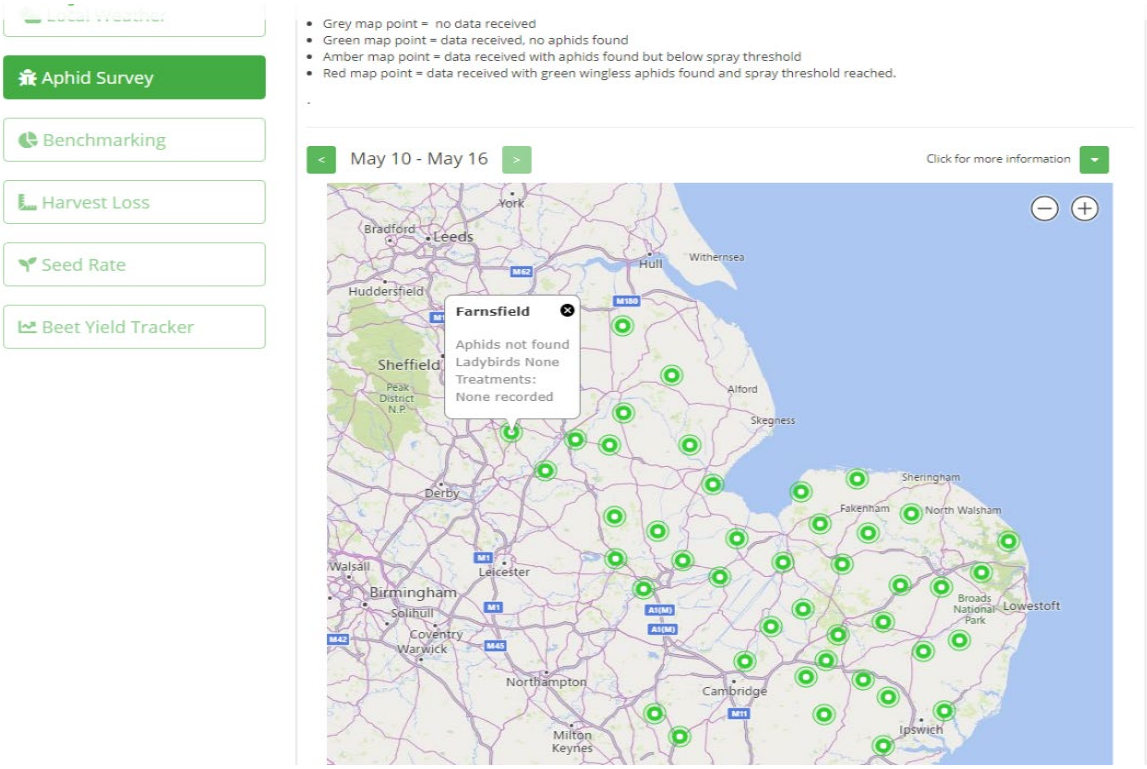


Fig 3: Screen shot of the BBROplus website and the Aphid survey page.

Fig 4: Macrosiphum euphobiae. The potato aphid is a relatively large aphid compared to Myzus persicae with both winged and wingless forms. Wingless juveniles can grow up to 4mm in length and have long legs and a dark stripe running down the back of the body. The potato aphid alone does not cause damage and is a relatively inefficient vector of Virus Yellows.

It is vital that you start your own aphid monitoring programme, especially where the crop is producing many new leaves in rapid succession. Be careful to make sure you check for aphids on the heart leaves, within the folds at leaf margins and on the underside of leaves. You need to do this on at least 12 plants in 5 locations across the fields, providing an indication of wingless aphid numbers on the crop.

At this stage of the season the threshold trigger for spraying is 1 green wingless aphid per 4 plants (3 green wingless aphids per 12 plants) up to the 12-leaf stage.

Nutrition

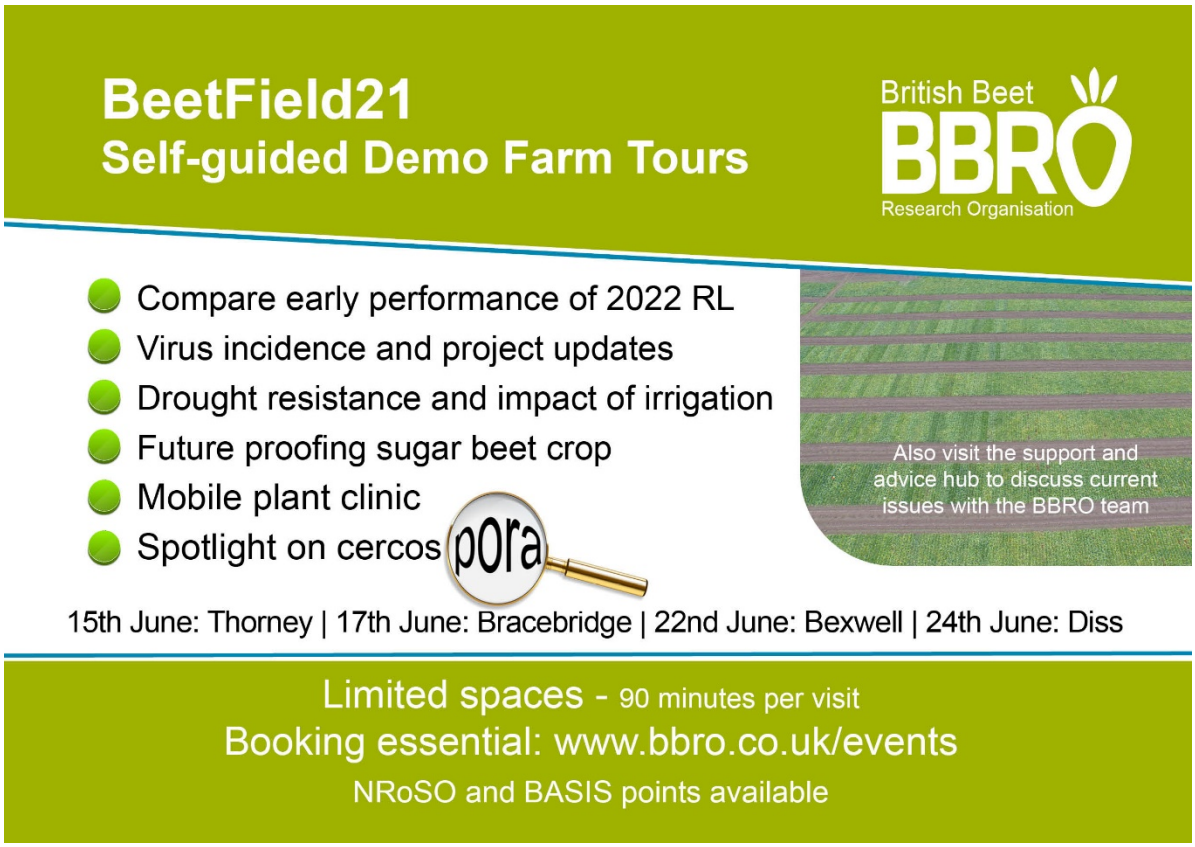
Make sure you have applied all the nitrogen to your crop. Sufficient nitrogen is essential to drive leaf growth. In the rapid phase of leaf canopy expansion, a crop can require 4-5 kg N/ha per day. As soon as crops reach the 4-6 leaf stage, and especially where growth is rapid make sure you start your foliar Mn and Mg programmes. Additionally, consider applying boron and calcium as foliar applications on very light soils and where young plants are looking stressed or backward. Both elements are essential in the early growth of seedlings. If you have not applied sulphur to the soil, consider applying sulphur as a foliar application, again especially on light sandy soils with low natural nitrogen content and especially where the canopy appears backwards and/or pale.

Use the guide below to identify where potential nutrient stresses may occur:

Nutrients & early canopy growth	Typical deficiency situation where early applications could be considered.
Manganese	Organic & sandy soils, high pH, after liming, fluffy seedbeds. Cold, wet conditions. High OM Rapid growing crops require high levels of manganese
Phosphate	Low organic matter, acid & very calcareous soils. Low P soils. High iron levels. Cold & wet soils poorly rooted crops even where soils levels are good. Phosphate is essential for early rooting and leaf growth.
Magnesium	Sandy & acid soils. High K levels, High applied P & Zn. Cold & wet conditions. Moisture stress
Sulphur	Acid soils, light sands. low organic matters. Poorly aerated, waterlogged soils
Boron	Sandy & calcareous soils. Low OM. High nitrogen & calcium soils. Drought, cold & wet conditions.

EVENTS

[Book now to secure your place at one of the BBRO summer events.]



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