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BBRO Advisory Bulletin Special

Our first Advisory Bulletin of 2022 is dedicated to Virus Yellows, aphids, and the use of Cruiser SB seed treatment.



IN BRIEF

2022 Virus Yellows forecast:

BBRO can confirm that the trigger threshold of the Rothamsted Virus Yellows Forecast has been reached and, therefore, the use of Cruiser SB seed treatment will be applied to sugar beet seed in 2022, complemented by a robust stewardship programme to maintain controlled use of the seed treatment.

The national Rothamsted Model forecasts the proportion of the crop that is expected to show Virus Yellows symptoms in the absence of any control measures. Under the terms of the Emergency Authorisation the threshold was set at 19%. The model has today, Tuesday 1st March, confirmed a forecast of 68.9% incidence.

Key headlines:

- The forecasted incidence of Virus Yellows for 2022 is 68.9%
- The date of first arrival of aphids in crops in 2022 is forecasted from the 19 April onwards
- This is in comparison to 2021, where the forecasted incidence of virus yellows was 8% with an expected aphid flight date of 18th May, and in 2020, the forecasted incidence of virus yellows was 85% with an expected aphid flight date of 24th March
- As the 19% threshold trigger for 2022 has been reached, Cruiser SB seed treatment will be applied to sugar beet seed
- All sugar beet growers must adhere to the robust stewardship programme that has been agreed by the Health & Safety Executive. This includes compliance with the following-crop rules highlighted below.



Essential stewardship conditions for sugar beet growers to adhere to in 2022

There are several key conditions summarised below that **must be adhered to**. Growers and their agronomic advisers must follow these conditions:

- **A maximum seed rate of 1.15units/ha of treated seed.** If there are concerns about poor establishment and a higher rate of seed is required, untreated seed can be used. It is not recommended that untreated and treated seed are mixed but are drilled separately in a block, ensuring the 1.15 units/ha is not exceeded per unit area of the field.
- **Careful and targeted use of herbicides** are 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. This applies in treated fields only (NOT next to or around the area of sugar beet fields drilled with Cruiser SB seed).
- **Fodder, energy, and red beet are not included** as part of the derogation to ensure the 'controlled and limited' element of the Emergency Authorisation is met.
- **Strict adherence to the 32-month restriction on growing of flowering crops (see Table below).** Note that this includes cover crop species. Any crop excluded from the table should be considered 'restricted' i.e., subject to a minimum of 32-month interval from drilling Sugar Beet. Agri-environment options that allow flowers to grow or appear must follow the 32-month restriction.

	Non-restricted	Restricted
Rules	No restrictions following Sugar Beet	A minimum of 32 months from drilling of Sugar Beet
Crops	1. Wheat (including Durum Wheat) 2. Barley 3. Millet 4. Sorghum 5. Oat 6. Maize / Corn 7. Rye 8. Triticale 9. Canary seed 10. Spelt 11. Potato 12. Cabbage 13. Kale 14. Swede 15. Lettuce / Babyleaf / Spinach 16. Onions 17. Leeks 18. Carrots 19. Parsnips 20. Cauliflower 21. Broccoli 22. Turnip	23. Oilseed Rape 24. Linseed 25. Mustard 26. Soya Bean 27. Pea 28. Bean 29. Buckwheat 30. Clover 31. Phacelia 32. Chicory 33. Radish 34. Vetch 35. False Flax 36. Lucerne 37. Sunflower 38. Borage 39. Sainfoin 40. Nyger 41. Lupins

Some answers to key questions you may have about the Virus Yellows situation in 2022

➤ **Is the risk higher than last season and does this trigger the use of Cruiser SB?**

There is a higher risk of Virus Yellows in crops than last year, but a lower risk than 2020. The threshold for the Emergency Authorisation on the use of Cruiser SB in 2022 has been triggered (exceeding 19% of crops affected by Virus Yellows in the absence of any control), and where requested, Cruiser SB will be applied to seed in 2022.

➤ **When can I expect seed to arrive on farm?**

The Seed Working Group is now instructing Germains and KWS to apply Cruiser SB seed treatment to those orders that specifically requested the treatment. Force and Standard treated seed deliveries should now be nearing completion. Seed deliveries of Cruiser Force treated seed from Germains should start w/c 7th March and conclude w/c 21st March. Low bolting varieties will be prioritised for processing first, so these varieties are likely to be delivered earlier than higher bolting varieties. Deliveries of KWS EPD2 pelleted seed should start w/c 14th March and conclude w/c 21st March.

➤ **How long will Cruiser treatment protect my crops?**

Use of Cruiser seed treatment will protect crops for up to 10 weeks from drilling. Therefore, for crops drilled on different dates, the period of protection will be approximately as follows:

15th March to 24th May

30th March to 9th June

10th April to 19th June

The Virus Yellow forecast estimates the average aphid arrival date from the 19 April onwards. Cruiser SB will provide good protection against virus transmission from the early influx of aphids.

➤ **Will crops from non-Cruiser treated seed need foliar insecticides?**

Non-Cruiser SB treated crops are at risk of virus infection and will need careful monitoring for aphids from early April onwards. Crops will need foliar insecticides where the thresholds are exceeded. The threshold for foliar insecticide treatment is **1 wingless green aphid per 4 plants up to the 12-leaf stage**. After the 12-leaf stage the threshold is 1 wingless green aphid per plant.

➤ **Will I still need to use foliar insecticides where I have used Cruiser SB treated seed?**

Depending on aphid numbers in late April, May and early June, Cruiser SB treated crop may require additional foliar insecticides, if the thresholds are exceeded. It is recommended to start monitoring crops for aphids from 8 weeks after drilling.

➤ **What foliar insecticides can I use and in what sequence?**

- **In Cruiser SB treated crops**, foliar insecticides must be applied in the sequence **T1 flonicamid** (as either Teppeki or Afinto), followed by **T2 acetamiprid** (Insyst)

- **In non-Cruiser SB treated crops** the same options are available but there is no restriction in the sequence of use. An EA for a third option for a foliar application is being progressed.

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

➤ **How will aphid numbers be monitored in 2022?**

- 1) BBRO will be undertaking comprehensive aphid monitoring of crops in this period and will be assessing thresholds for foliar treatments. This information will be available on the BBRO website and regularly updated. It is recommended that you view the latest information at least twice weekly and use these as a guide to when you should check your crop.
- 2) However, it is also **essential that you assess aphid levels in each of your sugar beet crops** so any foliar insecticide can be carefully targeted to provide effective control of aphids. BBRO will be providing information on how to assess your own crops as well as guidance on aphid identification.

➤ **Will mature plant resistance help with reducing virus transmission?**

As crops develop, they begin to acquire mature plant resistance (MPR) to virus transmission. From about the 12-leaf stage, aphid multiplication is gradually reduced therefore reducing the further spread of virus both within and between crops. The 12-leaf stage is reached approximately **50-60 days after emergence and when the crop is at about 50% crop cover**. However, this depends considerably on variety growth habit and specially growing conditions such as temperatures and soil moisture and it is difficult to predict with any level of accuracy.

BBRO will monitor crops in respect of mature plant resistance growth stages. As a guide and using average seedbed and growing conditions, a crop drilled in the last week of March should reach the 12-leaf stage in late May/early June. The Cruiser SB 10-week period will be close to elapsing at this stage so it is likely that in some situations, crops will still be at a more susceptible stage and will require continued aphid monitoring for threshold and foliar insecticide protection.

➤ **What other actions can I take to reduce Virus Yellows in 2022?**

- **Ensure rapid and even crop emergence** – take time with seedbed management to ensure seed is drilled early into warming soils with moisture and a friable soil structure. Avoid cultivating when too wet and forming lots of clods or alternatively over drying by multiple cultivation passes. Emergence and seedling development will be retarded in cold dry cloddy seedbeds. Be careful when applying herbicides to avoid any damage and check in new growth. When crops reach the 2-4-leaf stage be ready to apply foliar nutrients to drive rapid canopy establishment. The [2022 BBRO Reference Book](#) has the latest recommendations on the use foliar nutrients. Make sure the crops have at least 30-40kg of available nitrogen in the seedbed from drilling onwards. Placing nitrogen can help advance crop

development but ensure placement is in the right area (below and to the side of seed).

- **Under sown barley** – used to traditionally stabilise soil against wind-blow, where non-Cruiser SB treated seed is to be drilled, under sowing with barley may also help with camouflaging crops against aphids. Part of the visual recognition process used by aphids to locate crops is the use of colour contrast. Reducing the contrast between green crop and brown soil has been associated with a reduction in aphid numbers. Whilst BBRO is gathering more trial data on this approach, guidance can be found on the BBRO website's [‘Opinions’ page](#).
- **Encourage beneficials** – as aphids are expected to arrive in crops from the 19th April onwards, ensuring the synchrony of sufficient number of beneficials will be challenging. Information on beneficials can be found on the BBRO website's [‘Opinions’ page](#). Make sure field margins are maintained and not damaged during cultivations and drilling. If you are considering establishing beneficial strips, try to include quick-flowering species such as Sweet Alyssum, Annual Phlox and Cornflower. Seed into warm soil with sufficient moisture present.



EVENTS

Catch up with the latest info from our recent BeetTech22 events via the BBRO website <https://bbro.co.uk/events/>



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