**Neonic FAQs**

[**What seed treatments are available to be applied to my seed?**](https://bbro.co.uk/research/neonic-update/#collapse_1663)

There is a range of seed treatments applied to seed:  All seed is coated with Tachigaren and Thiram for reduction of Aphanomyces and Pythium. Additionally growers will have the choice of obtaining seed treated with Enrich 100, a new pellet and elicitor treatment to trigger the plants natural defence mechanisms, Vibrance for reduction of Rhizoctonia, Pythium and Phoma and Force ST for reduction of soil pests such as springtails, symphylids, millipedes and pygmy beetles.

[**Will any of these help with the prevention of virus spread into my crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1664)

None of these will provide effective control of aphids.

[**What is Virus Yellows?**](https://bbro.co.uk/research/neonic-update/#collapse_1688)

Virus Yellows is a complex of 3 viruses; Beet Mild Yellowing Virus (BMYV) and Beet Chlorosis Virus (BChV) which are closely related, with the third virus being beet yellows (BYV). These viruses are transmitted when the aphid feeds, with the peach potato aphid (*Myzus persicae*) being the main concern.

[**Where will the virus come from?**](https://bbro.co.uk/research/neonic-update/#collapse_1665)

The virus is carried into beet crops by winged aphids each spring and the most important aphid vector is *Myzus persicae* (the peach-potato aphid). Aphids, depending on the weather, over-winter on alternative hosts such as weeds and then migrate into beet crops. Other arable crops, such as potatoes or brassicas may also host the aphids. Other aphid species such as *Macrosiphum euphorbiae* (the potato aphid) and *Aphis fabae* (the black bean aphid) can transmit some or all of the yellowing viruses but are generally less efficient and therefore regarded as less important, especially when their populations are small. If virus-carrying aphids arrive in the crop, they can establish primary foci of virus infection. If aphids are not controlled these aphids and their progeny then cause secondary spread of the virus, leading to the classic yellow patches within fields. The viruses are not mechanically spread  and are not seed-borne.

[**Is there anything I should do over winter to help reduce sources of infection?**](https://bbro.co.uk/research/neonic-update/#collapse_1666)

Yes, this is important. Managing weed beet and controlling leaf growth on beet clamps, including any remaining waste after harvest, will help remove sources of infection for the aphids. Certain weed species are hosts for both aphids and some or all of the yellowing viruses.  Potato volunteers, as well as certain species of cover crops i.e. brassicas may also be sources of aphids that then may migrate to sugar beet.

[**How will I know the risk to my crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1667)

The Virus Yellows Forecast will be issued annually in March. The BBRO use yellow-water-pan traps to monitor aphid numbers, in conjunction with a model that uses winter temperatures to predict the population growth of aphids in each factory area.  Aphids are then tested for virus to ascertain risk. This monitoring will be increased significantly ahead of the 2019 season, and regular updates on potential risk will be issued via the BBRO website, Advisory Bulletin and twitter.

[**Is it expected that the virus levels will be high in 2019 or will it take a few seasons to build up?**](https://bbro.co.uk/research/neonic-update/#collapse_1668)

This will need to be closely monitored and will be dependant on the weather; a cold winter will provide some natural control on the aphid population.  Previous seed treatments may also have held aphid numbers in check, meaning we may be starting at with a low level aphid population.

[**What is the risk if I do nothing?**](https://bbro.co.uk/research/neonic-update/#collapse_1686)

Monitoring shows that the UK sugar beet crop would have experienced seven virus epidemics of over 50% infection since 2000 without any effective control optionssuch as the neonicotinoid seed treatments. In 13 of the last 17 years, these treatments have prevented economically significant crop losses due to virus yellows alone.

[**Will early or late drilled crops be at greater risk?**](https://bbro.co.uk/research/neonic-update/#collapse_1669)

This depends on when the aphids are active and landing in crops.

[**When is the beet crop most susceptible to virus?**](https://bbro.co.uk/research/neonic-update/#collapse_1670)

Younger crops are more susceptible to infection. From about the 12-leaf stage onwards, plants become more resistant to virus. This is termed ‘mature plant resistance’. It is a gradual increase in resistance and not a quick ‘switch’ to full resistance. However, getting the crop to the 12-leaf stage as quickly as possible will minimise the susceptible phase of the crop. Good seed beds and establishment will be important.

[**Are any varieties more/less susceptible to virus?**](https://bbro.co.uk/research/neonic-update/#collapse_1671)

There is a lot of work looking at this but there is no current usable resistance in varieties in the  2019 RL list.

[**How long does an aphid need to feed before transmitting the virus?**](https://bbro.co.uk/research/neonic-update/#collapse_1672)

This depends on the virus, for BMYV and BChV it will take approx. 48 hours to become infected, once infected the aphid will carry the virus for life.  However, for BYV the virus is acquired within minutes, with the aphid carrying the infection for 2-3 days.

[**What is the period between virus transmission and symptoms appearing the crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1673)

This can vary but on average 2-4 weeks. Therefore, by the time you see symptoms it is too late to control the aphids.

[**How will I know whether I have virus in the crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1674)

You will see yellow patches in your field.  However, the symptoms of yellowing can be confused with many other symptoms such as drought and nutritional deficiencies. BBRO can test leaves to confirm the presence of virus. To access this free service please see the  [Plant clinic.](https://bbro.co.uk/research/plant-clinic/)

[**What is the potential yield loss if virus transmission is not controlled?**](https://bbro.co.uk/research/neonic-update/#collapse_1675)

This can vary considerably and depends on type and extent of infection.  Previous trials have shown yield losses of up to 30% with BMYV and up to 47% with BYV, per infected plant.

[**What foliar sprays are available for protecting my crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1676)

There are limited options. There are several pyrethroid sprays that can be used but aphid resistance to these is high. Additionally, pyrethroids will knock out the beneficial insects such as ladybirds and lacewings. These beneficial insects are particularly effective in controlling aphids. Therefore be very wary about using pyrethroid-based foliar sprays in sugar beet. A new non-pyrethroid spray has been approved for the control of aphids in sugar beet for 2019. The product name is Teppeki. The active chemical is flonicamid. Only one spray can be used in sugar beet. Teppeki has a persistence of up to 21 days, making timing critical.

[**How will I know when it is the correct time to spray my crop?**](https://bbro.co.uk/research/neonic-update/#collapse_1677)

The current aphid threshold for spray application is 1 green wingless aphid per 4 plants, with plants up to the 12 leaf stage.  BBRO will be monitoring both aphid numbers and the presence of virus in aphids as the season progresses. When threshold levels are reached, advice will be issued.

[**Will the use of Vydate on my crop help to control virus transmission?**](https://bbro.co.uk/research/neonic-update/#collapse_1678)

It is unlikely that this will provide effective control. Firstly, it is a carbamate and there is wide spread aphid resistance to this group of chemicals. Secondly, it is not persistent enough to control all but very early infestations of aphids.

[**Can I plant anything else to attract aphids away from sugar beet crops?**](https://bbro.co.uk/research/neonic-update/#collapse_1679)

This is an interesting strategy that BBRO is investigating but currently there is no clear advice that we can give regarding this approach or its effectiveness.

[**Can I release beneficials into my crop to control aphid numbers?**](https://bbro.co.uk/research/neonic-update/#collapse_1680)

An interesting approach, but we have no clear information as yet.

[**Should I increase my seed rate to compensate for yield losses?**](https://bbro.co.uk/research/neonic-update/#collapse_1681)

The focus should be on seedbed quality not seed rates.  Ensuring that the seed germinates rapidly, and plants develop as quickly as possible to beyond the 12-leaf stage is the key.

[**Where can I get further information on this issue?**](https://bbro.co.uk/research/neonic-update/#collapse_1682)

BBRO has information on its website and provides regular Advisory Bulletins. Ahead of and during the 2019 season the BBRO will provide regular information from its aphid monitoring programme on the risk of virus and need for foliar insecticides.