

Should neonics return?

“It takes time to develop alternative solutions.”

Roots Sugar beet

The granting of an emergency authorisation for use of a neonicotinoid seed treatment in sugar beet has attracted a lot of criticism, even within the farming community. *CPM* tunes into the debate about whether this marks a forward or backward step for the industry.

By Lucy de la Pasture

There's no doubt the threat from virus yellows has been very real during the current sugar beet campaign. Unprecedented numbers of aphids descended on crops, even as some were struggling to emerge during dry weather in spring. The result was virus transmission that proved impossible to stem, even with the insecticides growers could apply under the handful of EAMUs granted for the season.

By autumn yield losses of up to 80% were being reported in the worst hit areas, a situation that even with the compensatory scheme hastily put together by British Sugar meant many sugar beet growers were reducing their planned acreage for 2021 or considering giving the crop up all together. The industry was on the ropes.

While many regard the neonic derogation as a lifeline for the UK's sugar industry, others are concerned that falling back to

reliance on neonics is a step in the wrong direction. It was the subject of a Wild LIVE debate hosted by The Wildlife Trusts and chaired by its chief executive, Craig Bennett. The case for farmers was ably put forward by Tom Clarke, who farms just over 400ha of fen near Ely in Cambridgeshire and sits on the NFU's Sugar Board. Farming was also well represented in the live chat, with a number of agronomists and farmers providing answers to many of the questions posed by viewers as the debate took shape.

Virus yellows problem

Tom opened the debate by explaining the value sugar beet adds to his rotation and to the biodiversity on the farm while showing the livestream viewers the virus yellows problem farmers are currently facing in a video created on his own farm.

“The sugar industry will be gone if the same thing happens next year, which is why the NFU asked for a derogation. We recognise the concerns about using neonics so asked for this emergency authorisation to have much tighter restrictions than those already granted in France and Germany.”

Tom adds that he doesn't relish the prospect of using a neonic seed treatment but views it as a necessary stepping-stone while other strategies are developed. “We have to go through a growing cycle to try anything new in farming which means it takes time to develop alternative solutions. I've trialled releasing lacewings and parasitic wasps on my farm this year to help control aphids, but this was the first time this had been done in an open field.”

One of the problems highlighted in the debate was that the farming industry had become reliant on just one solution to control virus yellows. Add in the effects of

a changing climate on pest numbers and take that solution away and it was clear virus control has failed.

“The ban in 2018 in sugar beet came as a bit of a surprise so there was no plan. We're only in our second season without neonics, which means it's only the second chance we've had to look at new approaches, and then this has happened (high aphid numbers). If we'd had more time, then we could have put a plan in place but now we're having to make it up as we go along.”

“If that's the case, what's to stop the derogation becoming an annual event?” challenges Craig. “That's a fair question,” answers Tom. “The reaction since the announcement (of the derogation) shows people really care about bees and I'm really glad they do. So it can't become the new normal, this is a special case — we won't go back to the old ways,” he said.

Dave Goulson, Professor of Biology at ▶



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Dave Goulson explains that the body of research now shows neonics are not as targeted as they were originally thought to be, with only 5% taken up by plants.

▶ Sussex University, has been studying the effects of neonics for the past 12 years and outlined the case against their use. “Neonics are very toxic to all insect life — more toxic than DDT. They have an LD50, that’s the dose needed to kill 50% of the population, of four billionths of a gram per honeybee or put another way, one 5g teaspoonful is enough to kill 1.25 billion bees.”

Referencing the Defra Pesticide Usage Survey Statistics, he explained that UK growers were using 110 tonnes of neonics each year before the ban in an attempt to illustrate the scale of the threat to insects.

“In 2013 neonics were banned in flowering crops but it didn’t solve the problem which led scientists to find out why this was. They found that although neonics are intended to go into the plant, only about 5% is sucked up by the crop. 95% goes into the soil where it’s persistent, builds up and can leach into water.”

That helped explain why neonics have been detected in plants growing in land

where a treated crop hasn’t been grown. “Any plant or hedgerow with roots into that soil (with neonic residues) will take it up and deliver neurotoxins to bees. But it’s not just about bees, it’s also about other pollinators and all insects.”

Dave added that farmers had been sold neonic seed treatments as a very targeted way of delivering pesticide to the crop by chemical manufacturers, but the body of research now shows that this isn’t the case.

Slow down research

Caroline Corsie works as an agronomist and senior land advisor at Worcestershire Wildlife Trust, where she has worked since 2005 managing its 85ha of mixed arable farmland. She voiced her concern that the derogation for neonics will slow down the research for an alternative, particularly into resistant varieties which are widely believed to be the most likely solution to the virus yellows problem. She also suggested government should be focusing more on regenerative farming practices and supporting growers through change.



Liz Bowles believes that the focus now needs to be on developing nature-based IPM systems.



The biggest concern Caroline Corsie has about the derogation is that it will take the pressure off developing other ways of controlling virus transmission.

Associate director for farming and land use at the Soil Association, Liz Bowles echoed Caroline’s view that the pressure could now come off looking for an alternative solution as there is no longer the ‘commercial necessity’ now a derogation is in place.

“Reducing reliance on pesticides is one of the key things farmers want to do and Innovative Farmers is one of the ways we’re helping them do this. Unless we can reverse the global decline in biodiversity, there’s no chance of dealing with climate change,” she said.

“Nature likes complexity but over the past 30-40 years we’ve been reducing that complexity. Going forward we have to look more at nature-based IPM and not chemical-based IPM.”

One of the conditions of the derogation is that flowering weeds are controlled in and around the crop to reduce the risk of harm to pollinators. The wording has raised concerns that farmers will be having to spray of flowering margins, but Tom clarified that the intention is to ensure weeds are controlled in the crop itself.

Dave suggested that farmers would be unwise to plant sugar beet adjacent to a flowering strip and pointed out that even a sub-lethal effect can have a long-term effect on colonies, causing confusion and susceptibility to bacterial infections.

There seemed little doubt on both sides of the debate that a return to using neonics isn’t a win for the environment. Tom summed up that farmers care about their farms, which depend on the environment and this unites farmers and environmentalists in a common cause. He added that the world is a complicated place and at the moment there is no simple solution to the problem of virus yellows. ■

Key points in Emergency Authorisation of thiomethoxam

- Seed can only be treated once the outcome of the Rothamsted model is known in February. BBRO have confirmed the threshold trigger will be 9% on 14 February 2021. Previous modelling has indicated that in the last 20 years this would have triggered over 90% of the time.
- The application rate of the product will be below the normal commercial rate, BBRO advise that this will offer up to 10 weeks protection rather than 12 weeks.
- Industry-recommended herbicide programmes will be followed to limit flowering weeds in and around sugar beet crops.
- The industry (BBRO, BS & NFU) will implement a soil and plant testing programme to assess any residue levels. The survey and sampling programme will be risk-based (following expert advice) and final details are to be confirmed.
- Only cereal crops may be sown in the same field for the 22 months following sowing of Cruiser SB (thiomethoxam)-treated sugar beet seed.
- Any crop, excluding oilseed rape, may be sown from the 23rd month onwards. OSR must not be sown for 32 months following sowing of Cruiser SB treated seed.
- Fodder, energy and red beet are not included as part of the derogation to ensure ‘controlled and limited’ element of the Emergency Authorisation.