

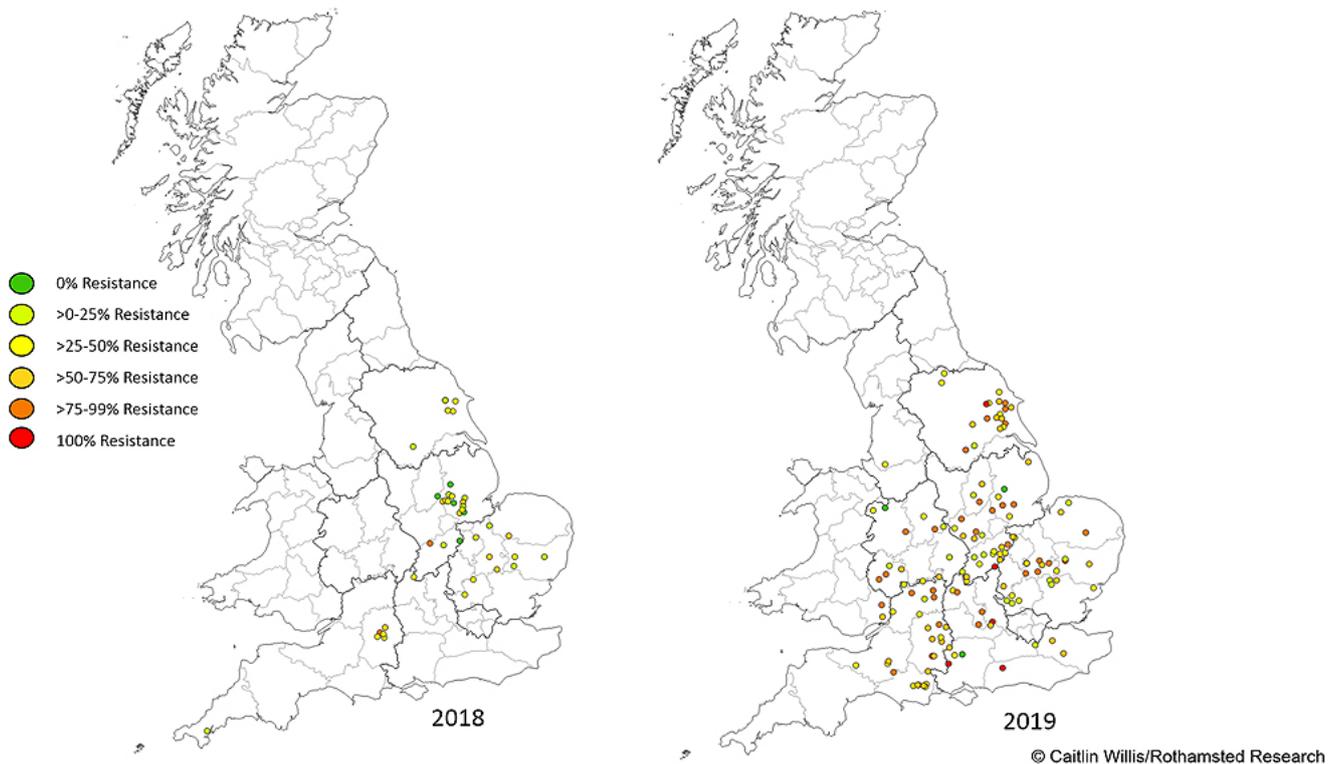
Resistance results dictate flea beetle actions

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Latest results of insecticide resistance testing of cabbage stem flea beetle samples, taken at harvest or from stores, has shown the huge variability among populations from across the country.

However, the general shift is for an increase in resistance. In 2018, for example, just one sample was in the 75 to 99% resistant bracket, which had increased to 22% of samples this year.



Monitoring by Rothamsted Research PhD student, Caitlin Willis, has also shown around 15% of samples with zero or low (up to 25%) resistance to a pyrethroid, even from locations in the eastern counties.

But also, others are showing 20, 50 or up to 100% resistance - with new locations in western counties already indicating unexpectedly high resistance.

Mapping results of some 147 samples this year, compared to 53 in 2018, has also revealed that farms recorded with populations of 100% resistant CSFB, could be neighbouring others with low levels of resistance.

“Whilst it gives a useful guide to likely issues that could be encountered, it is by no means definitive of what will be faced in the field this autumn - with potential for cross migration from other populations that may be more or less resistant,” warned Dr Max Newbert of Syngenta.

He also highlighted that the genetic spread of resistant populations indicates there could be significant movement of CSFB populations across large areas with human traffic, such as machinery or grain transport, as well as natural migration.



Dr Newbert pointed out that that the CSFB pyrethroid resistance mechanism is primarily metabolic enhancement, not a genetic point mutation. That has implications for shifts in the strength of mutation, such that the strength of the resistance can fluctuate dramatically from year to year.

“In practice, if resistance has been recorded in an area, growers and agronomists need to pay extra attention to the effects insecticide treatments are having after application,” he advised.

“If lack of control indicates resistance is high, then a follow up spray will not improve efficacy, and could be counter-productive if beneficial predators are being hit.” The only time that it could be advisable, is if a large secondary migration has been observed that might be a susceptible population.

“For the best chance of success focus on good application, to target the pest directly for best efficacy,” advocated Dr Newbert.

“Sprayer operation is imperative, with nozzle choice, water volume, speed and timing all important to target active beetles and protect the crop at its most vulnerable stages.”