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PRESS RELEASE

Biological solution for SWD soft-fruit pest beats insecticides

READING, UK, 15th Dec 2023: Trials in the UK of a biological – and chemical-free – technique for the control of spotted wing drosophila (SWD) in soft-fruit crops have shown how it can outperform insecticides when used in commercial conditions.

Developed by British start-up BigSis, the system – using an updated version of the sterile insect technique (SIT) – reduced numbers of the damaging adult female SWD by up to 88% compared to a conventional, sprayed control.

Funded by an international company that has been working with BigSis to validate the chemical-free solution for global use, the trials also achieved an 80% reduction in signs of SWD activity on the fruit and saw fruit waste during picking cut by more than half.

“Only two years ago we completed a world-first field trial of an SWD control solution based on SIT,” says BigSis founder Glen Slade, “with results that showed up to 91% reduction of female SWD numbers in commercial strawberries.

“To achieve such good levels of control this year, again on a commercial farm, but this time compared to industry standard insecticide use, is a vindication of SIT’s ability to provide growers with a non-chemical, non-GMO, non-toxic route to effective and affordable insect pest control.”

The UK trials focused on an 11-hectare field of Maravilha raspberries divided into three maturities, a common practice that allows continuous harvesting from early July to early September. In each maturity, BigSis SIT was compared to control plots that received a single spray of Tracer (spinosad). Insect traps recorded adult female numbers in each plot. The fruit waste during picking was monitored across all plots and marketable fruit were inspected for signs of SWD activity.

First deployed more than 60 years ago, SIT – which uses sterile male insects to arrest the growth of an in-crop pest population – had always been regarded as too expensive to deploy commercially.

But BigSis has revitalised interest in the technique. Its approach, which combines artificial intelligence and robotics to raise, sort and sterilise millions of male insects in an automated production facility, has effectively reinvented SIT and slashed its cost by up to 90%, making it affordable for field-by-field control.

BigSis launched its season-long insect control as a service (ICaaS) in 2023, offering growers on-farm releases of its sterile male insects.

“We’re delighted with the results, as is the company that funded the trial,” enthuses Glen. “Our SIT is a zero-regulatory approach for many of the key markets in soft-fruit production, including England and four leading states in the USA.

“Effective control of SWD addresses a major global need in high-value crops, while enabling farmers to meet the expectations of regulators and consumers by reducing the use of crop protection chemicals in food crops.”

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Notes to editors:

Download hi-res photography to accompany this story: https://bit.ly/BigSis_Dec23 (Captions and credits in image info).

About BigSis (www.bigsis.tech)

Founded in 2017, BigSis aims to provide the world’s farmers and growers with a viable, affordable and environmentally benign alternative to chemical insecticides.

Founder Glen Slade previously spent five years commercialising a GM SIT solution, before founding BigSis to develop individualised insect rearing. He then realised the opportunity to offer SIT by using computer vision to sex-sort and X-rays to sterilise the insects.

The BigSis system is protected by three patent filings, trade secret know-how and an ever-growing proprietary dataset.