FERMATA

Decibel Cannabis Case Study

Artificial intelligence yields major dividends for growers

Decibel Cannabis Company (TSX-V DB) is a publicly traded corporation based in British Columbia and Alberta, Canada, operating two cultivation facilities and one manufacturing plant which produces pre-rolls and extracted products. The Creston B.C. cultivation facility, Qwest Estates, is focused on high-quality, small batch, craft cannabis flower, which the company has been growing since 2017.

THE PROBLEM

In March of 2023, Decibel's Creston facility, found itself in a tough situation. Having imported Strawberry Guava seedlings from an external source, they soon discovered them to have been the vector for a serious infestation of aphids. Further, this strain appeared to attract the pest like no other the company had ever experienced.

As aphids reproduce at an astronomical rate, with each individual asexually producing 50-100 offspring up to 15 times per year, once an infestation has taken hold, it is extremely difficult to eradicate. The previously spotlessly clean facility was soon overrun.

As serendipity would have it, the company had just signed up for Fermata's Croptimus™ AI-powered pest & disease detection platform, which is designed to discover signs of infestation and infection at their earliest stages — enabling growers and IPM teams to react quickly to mitigate these issues, preventing spread and crop loss. As the infestation had commenced in advance of the installation of Croptimus™ however, the immediate task became less about early detection and instead focused on relative pest pressure in order to measure the efficacy of their mitigation efforts.

Brad Ahern, Operations Manager at the facility, tried a variety of solutions to solve the problem: "We acquired new equipment that allowed us to fog the entire room with newer products that have had great results in other facilities. In doing so we stopped all other methods of pest control we have used in the past. This did not work to our advantage as we had an explosion of aphids in the facility — at the same time it was filled with a strain that the pest loved more than others."

+60%

Increase in High Quality Flower Yields

"Working with Fermata from the beginning with planning the system installation, training the AI, through to implementation of plans with help of the Croptimus™ system has been a pleasure. The Fermata team has been very helpful and fast to respond with any concerns that we have had, working hand-in-hand to be able to provide rating systems that work for us and allow for easy transfer of information to the workspace."
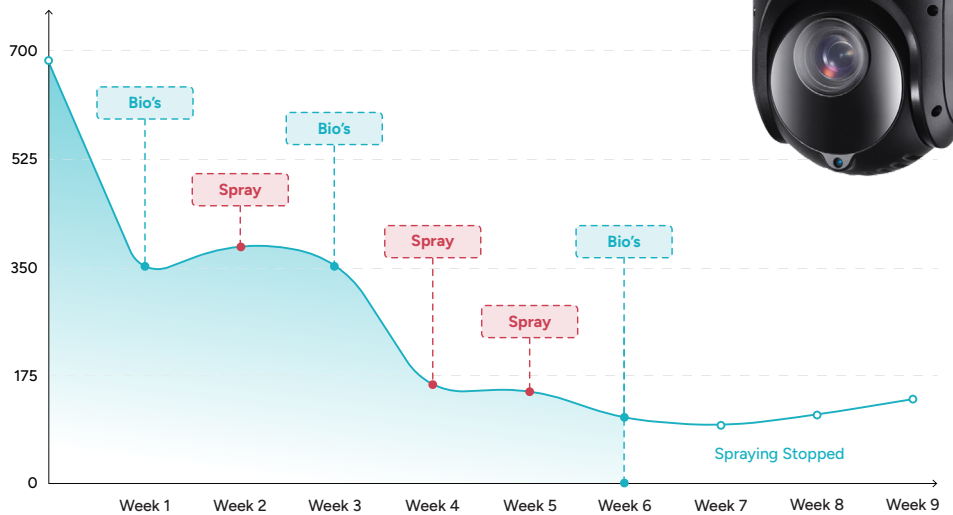
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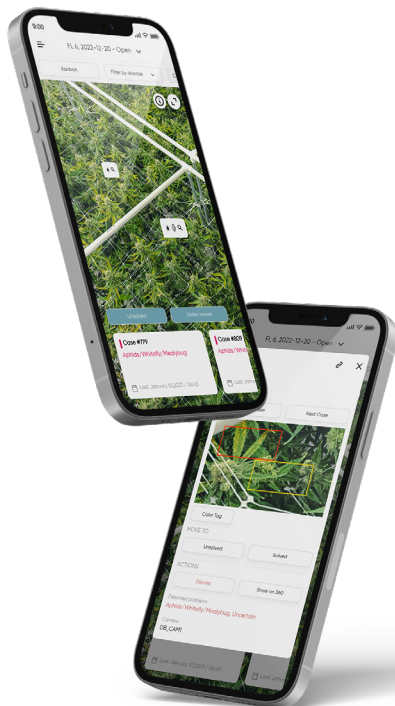
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THE SOLUTION

"Since then, we have started a new spray program of fogging with pesticides one week and then releasing biological controls the next. We allow a full week after the release of bios of no spray to let the bugs establish a foothold. Then we repeat sprays for the next week and bios the week after. By mid flower cycle spray application has been ended and we rely only on bios after that point as to not damage the flower as it matures. The combination of letting the bios establish for a week and new fogger has made a huge difference in our pest levels, not to mention the removal of strains that pests are attracted to."

PEST PRESSURE

"This has all happened during the implementation of the Fermata pest management system which has allowed us to track and monitor pest levels as they go up and down, comparing findings with what our plant scouts have been able to find. In doing this we can apply our bios to the area that needs it the most and attack the problem at its source. Since the Fermata system has been running and the AI has had a chance to learn our process, we have been getting reports that match our own scouting almost exactly, which will allow us to use fewer man hours in scouting and more time for dealing with the issues at hand."

Now that the infestation is under control and Brad finds his grow back to normal, he says that with Fermata back to focusing on early detection, and Decibel's diligence, the percentage of quality flower that live up to Qwest's high standards has increased dramatically.

> "*We are averaging 60% of harvest going to flower sales. This is a huge jump in usable product.*" —— Brad Ahern

ABOUT FERMATA

Fermata is focused on the application of data science and computer vision solutions to challenges faced by commercial agriculture. Engaged in extensive research since the company's inception in 2020, Fermata has now developed an adaptive computer vision platform designed to automatically detect pests and diseases at their earliest stages, saving growers up to 50% on scouting time, 30% on lost harvest, and 25% on crop inputs.

For more information visit **www.fermata.tech**