



CASE STUDY

INNOVATION IN FUMIGATION

PROTECTING YOUR FACILITY FROM THE THREAT POSED BY STORED PRODUCT PESTS

“Innovation is rewarded, execution is worshiped.” This quote from Quicken Loans founder Dan Gilbert aptly sums up what the pest management experts at Sprague Pest Solutions do every day for clients. They innovate and they execute.

The Sprague fumigation experts responded to a client’s concerns about stored product pests – cigarette, drugstore and warehouse beetles, and Indian meal moths – gaining access to their facility through incoming raw material shipments that were arriving from around the globe.

The client – an organic spice and herb processor producing both food grade and finished products – was a long-time Sprague client and their current stored product pest management program included pheromone monitoring.

Overall the facility was in good shape but as the client’s business grew and the volume of shipments from new suppliers increased there was concern about invasive species being introduced to the facility’s warehouse “Trojan horse” style in the materials.

The primary concern stemmed from the inability of the client to validate the chain of custody of the ingredients as they passed through the supply and transport chain.

“Many threats for ingredient infestation and spoilage can take place from the time the material leaves the field and arrives on the loading dock of the processing facility,” says Geoff Wiebe, regional account manager for Sprague in Eugene, Oregon. “It adds a level of uncertainty for food processors since introducing infested materials can lead to negative and costly outcomes.”

Using a third-party cold storage facility to store the raw materials before they were delivered to the plant was a possibility, but the cost and inconvenience associated with this option made it a non-starter.

The client needed a more cost-efficient and reliable method of protecting its incoming raw materials before they arrived at the facility and were introduced to the 50,000 sq. ft. material storage area.

This is where Sprague’s innovative approach and ability to effectively execute a new idea came into play.

THINKING INSIDE THE BOX

Fumigation has proven to be an effective solution for eliminating pests in shipment of food materials, but since the facility was organic certified traditional fumigants were not an option.

However, after conducting research and field-testing Sprague identified a rarely used fumigation solution that could deliver the desired result – CO₂ gas.

While not widely used in the United States for this purpose, CO₂ is used successfully as a reliable pest management tool overseas.

Working with the client's construction contractor, a specially designed, heated (insects need to be transpiring for the co2 to deliver its lethal dose) housing unit was constructed on the facility's property.

A cargo container was placed inside the insulated structure and heavy-duty mats and rollers – like what would be used on a cargo plane – were installed to make loading and unloading of spice and herb filled pallets into the container easy of enough for one person to manage.

The inside of the cargo container was lined with a specialized plastic lining that created an “envelope” for the materials to be fumigated. Sprague contracted with a co2 vendor to provide the gas and oxygen monitoring tools and after determining the correct dosages and timing, Sprague's fumigation experts tested the new concept on insects inside jars and came away with desired results.

Once the newly created co2 chamber went online, the client was able to have all its incoming shipments fumigated on site and transferred immediately to the storage area of the warehouse.

END RESULTS

Instead of having to fumigate its materials offsite or rely on a third-party cold storage facility, the spice processor was able to take control of the situation and manage this important process themselves with Sprague's assistance.

While the initial investment was more significant than other options, it paid off for the client in the long run both financially and in the fact that the materials being brought into their facility were pest-free.

“The client took a leap of faith with our idea and put their trust in Sprague to get the job done,” says Wiebe. “Our commitment to innovation and willingness to go the extra mile to solve a client's pest issues is what sets us apart.”

LESSONS LEARNED

- There is no one-size fits all solution to a client's pest management issue. It requires looking a problem differently and applying innovative solutions.
- Organic certified facilities require more research and creativity in the design and implementation of pest management programs.
- Co2 fumigation is a viable option for organic certified food processing facilities to eliminate pests in incoming material shipments.
- The on-site fumigation chamber allowed the facility to gain control of the situation and mitigate chain of custody concerns of infested materials being introduced to their facility.
- The process earned the facility greater efficiencies and long-term cost-savings.