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Upgrading your Pest Control Program



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10 Ways to Upgrade Pest Control

FSMA may not get into pest control specifics, but current good manufacturing practices are encouraging manufacturers to upgrade their prevention programs.

By Kevin T. Higgins, Managing Editor

With the Food Safety Modernization Act (FSMA) enforcement era well under way, food & beverage companies are intensifying efforts to upgrade their food safety defenses, with more rigorous worker training topping the list, Food Processing's 16th annual Manufacturing Outlook Survey found.

Three out of four food professionals who participated in the survey indicated a greater emphasis on training as a food safety priority in 2017. Most of those respondents — and 41.4 percent of all survey participants — also say their companies are taking a hard look at pest control as an area for improvement.

Two-thirds of the survey sample indicated their plants have outsourced pest control

responsibilities, making pest management the most frequently outsourced service. But out of house doesn't mean out of mind, given the criticality of the task. Keeping production and packaging spaces free of insects, rodents and other uninvited guests is fundamental. Even if public health inspectors don't shut a plant down, independent auditors take a dim view of deficiencies in this area: As much as 20 percent of food-safety audit scores are based on pest control.

Whether pest control is handled in-house or outsourced, past results are no guarantee of future performance. Continuous improvement is the only way to prevent backsliding. With that in mind, here are 10 ways to improve performance and outcomes in food-plant pest control.

1. Treat incoming materials as potential Trojan horses.

Some firms are going beyond certificates of analysis from suppliers to ensure that biological hazards are not entering through the receiving dock. The primary concern is raw materials, ingredients and primary packaging, but incoming shipments also can usher in rodents, insects and other pests.



Instead of a single contact person at client facilities, pest-control technicians are communicating with multiple individuals at food plants to ensure recommended improvements are enacted.

Photo: McCloud Services

Ron Harrison, technical services director at Atlanta-based Orkin Commercial Services, cites the pharmaceutical manufacturer that moved pallets of materials directly from the unloading dock to a clean room. With wooden pallets the dominant material carrier in food & beverage facilities, the likelihood that a pallet will contaminate processing areas is real.

2. Apply FSMA's preventive controls approach to pest management.

Few if any changes in regulations or guidances for pest control exist in FSMA,

but the corrective actions at the heart of the hazard analysis and risk prevention approach apply as much to current good manufacturing practices as they do to food safety. Preventive controls are a response to hazard analysis, and each analysis is specific to a particular facility and the types of products and ingredients made there.

Monitoring of light traps, rodent traps and other devices is a starting point for preventive control, but monitoring demands a framework, points out

Patricia Hottel, technical director at McCloud Services in South Elgin, Ill. How those monitors are used and what circumstances trigger a corrective action must be defined, along with an acceptable threshold for detected pests.

Manufacturers should specify what results trigger a corrective action, she adds. If a rodent enters the building because a dock door was left open, that doesn't mean the prevention system failed, only that procedures weren't followed. On the other hand, chronically

exceeding threshold levels of trapped beetles and cockroaches indicates the program isn't working and requires change.

Root cause analysis is essential. "When a problem occurs, it's a symptom, not a solution," Hottel emphasizes. Understanding why it occurred is necessary before determining if the event exposed a fundamental weakness or a one-time event.

3. Foster collaboration and engagement.

A band makes better music than a soloist. Likewise, a collaborative effort involving sanitation, maintenance, quality assurance and other disciplines is more effective than fobbing responsibilities off on a single individual, be it a staff member or service company technician.

"A good New Year's resolution would be to work on those relationships and have good communications," advises Jerry Heath, an entomologist at IFF in Lenexa, Kan. "Everybody in the facility can be part of inspection."

"The pest control program needs to be weaved in such a way that it isn't somebody else's problem," seconds Dominique Sauvage, director-field operations & quality for Menomonee Falls, Wis.-based Copesan Services Inc. "A lot of times, a service technician is hired to solve a problem, but without the participation of plant personnel, the problem likely will recur."

4. Create a contingency plan.

The French minister of war thought the Maginot Line was an impenetrable defense. German forces found a way around it; a month later, Nazis were quaffing champagne on the Champs Élysée.

Yesterday's outcomes don't guarantee tomorrow's success. "The unexpected is going to pop up at some time," observes Richard Kammerling, president of RK Pest Management Services in Huntington Station, N.Y. Instead of a rote approach to inspection, personnel should challenge themselves with what-if questions while bracing for the unexpected.

"Plant assessments shouldn't be routine," he adds. "Who wants to check the same 100 traps the same way, every time?"

5. Tap into educational resources.

Pesticide fundamentals, pest-proofing a plant and the principles of integrated pest management all get their due, along with sanitation principles and pertinent laws and regulations, in an online correspondence course from Purdue University. Food Plant IPM is a noncredit course with an optional text, "Truman's Scientific Guide to Pest Management Operations."

"Pest ID, biology and behavior and their importance in preventing and managing pests are extensively covered," according to Professor Gary Bennett. "I do believe

our course would provide the kind of foundation needed to be a ‘qualified individual.’” Inasmuch as FSMA stipulates that risk assessments be conducted by qualified individuals, his final point is important in establishing the science-based prevention that the act requires.

AIB International offers a similar program. Additionally, a number of seminars and other live events attract manufacturing personnel as well as pest-control technicians. One of the biggest is Pest Invasion, an annual seminar that occurred April 25 in suburban Chicago and was presented by McCloud. This year’s event drew more than 350 attendees.

Another was the 25th edition of IPM for Food Plants, a June 7-8 seminar in Hershey, Pa., presented by RK Pest Management Services.

“There are essential texts -- National Pest Management Assn.’s Field Guide App, Truman’s Guide, the



Seminars and conference events provide an opportunity to hear from experts and exchange ideas with peers to improve pest-control performance in food plants. Photo: McCloud Services

Handbook of Pest Control — plus online and correspondence courses, industry publications and conferences to increase your pest management knowledge,” advises Copesan’s Bennet Jordan, director-technical support & regulatory compliance. “As your knowledge increases, you can better communicate your thoughts on your program and work to implement improvements.”

6. Conduct a critical site assessment.

While site assessments are a first step in establishing a pest control program, conditions change with

the seasons and over time. Don’t leave it up to a service technician to make a critical assessment of the area surrounding the facility: An orchard in an adjoining parcel will attract rodents, some of which might pay your plant a visit.

A facility nestled in the bottom of a valley is particularly prone to unexpected invasions, depending on wind velocity and the season. Positive air pressure inside the plant can help keep out windblown insects. Air curtains and door sweeps also are worth considering.

Cracks in exterior walls, leaky pipes and other maintenance issues demand corrective action, and service technicians are duty bound to detail them in their reports.

7. Address issues promptly.

Cracks in exterior walls, leaky pipes and other maintenance issues demand corrective action, and service technicians are duty bound to detail them in their reports. Unfortunately, some plant managers believe the solution to a slow response is to direct technicians to stop including the issues in their reports to eliminate a paper trail.

That's not going to happen: to do so would be an act of professional negligence. "In the past, repairs have been looked at with different degrees of urgency," allows IFC's Heath. "Under FSMA, there can't be a cavalier response."

8. Groom a junior entomologist.

Regardless of whether a service company's technician visits weekly or if pest management is handled in-house, a staff person with an understanding of pest biology and the ability to identify different insect species is a valuable asset. A college degree isn't necessary, but some combination of classroom or correspondence training and field work can produce a measure of in-house expertise.

"There has to be a qualified individual to oversee activities," points out Paul Curtis, manager-technical services for Memphis-based Terminix International Co. "If someone is well versed in good manufacturing practices and

general sanitation requirements, that's a start. They don't have to be an entomologist, but they should have gone through validated training and education."

Sustainability programs that include zero waste to landfill and recycling initiatives can have a direct impact on pest management, he adds. Familiarity with those efforts, along with scrupulous record keeping and an ability to conduct a risk assessment when problems occur, help define a qualified individual.

9. Don't overlook worker welfare areas.

FDA lists the Dirty 22, a most-wanted list of birds, rodents and insects that pose the greatest danger

and are the most likely source of pest problems in food plants. But other pests can be carried in on workers' clothing or in their personal belongings. A robust pest-control program accounts for that possibility.

Bed bugs are an example. "We find them all the time in locker rooms," Orkin's Harrison acknowledges. Cafeterias and rest rooms are additional landing spots for strange and exotic pests not commonly associated with food processing.

10. Take advantage of the latest tools and tactics.

Walking tours are a necessary part of any management program to identify problem areas and assess what types of pests are entering the premises and where. They are spot checks by their nature and leave unanswered questions when the breach occurred.

Low-cost sensors that detect when a trap is



Ultraviolet light, which attracts bugs, is used in traps. But the LED wavelength repels bugs, which makes it an effective first line of defense in exterior lights. Photo: Orkin Commercial Services

activated provide real-time data. Pinpointing the date and time a rodent was captured is valuable intel.

Pheromones originally were categorized as monitoring tools for specific insects. Today, they are migrating to control tools, disrupting mating patterns. The bad news is that pheromones for every type of insect found in food plants don't exist. The good news is that the list of available pheromones continues to grow.

UV lamps typically are used in light boxes used to attract flying insects.

Conversely, LED repulses most of them. That makes the LED wavelength an excellent choice for exterior light standards aimed toward the facility.

FSMA may have nothing new to say about pest control, but it is an essential element of any food-safety program. Given the intensified focus on food safety, best practices and continuous improvement in keeping pests at bay is a good rule of thumb for all food and beverage companies and not just the two in five where upgrades are being made.

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Control Pests and Bugs Around Your Loading Dock Doors

How a mesh door is keeping unwanted birds and pests out of the loading dock area.

By Goff's Enterprises

Food safety has always begun with cleanliness and a clean facility simply isn't attainable if food craved, pests are able to migrate through open dock doors. When unwanted pests invade your facility, whether it be of the ground moving or airborne variety, not much else can be focused on! To solve this specific issue, while helping to meet A.I.B. facility standards, Goff's Enterprises has brought to market the G-2 Lite Door.

Goff's Enterprises G-2 Lite Door is a fully customizable high speed mesh dock door designed to keep unwanted bugs, birds, and other pests out of the loading dock area. Not only does it keep out pests, the G2 Lite Door helps to reduce heat from the sun while allowing light into work areas and improving

ventilation. The Door is constructed with 11 oz vinyl woven Mesh panels that provide a 65% shade factor to lower temperature and save energy. The 17x11 scrim provides small openings which make it difficult for insects, birds, and pests to penetrate, leaving your facility pest free and compliant with food facility sanctioning organizations.

G2 Lite Doors feature easily replaceable, exchangeable panels. Uniquely created fiberglass extrusions slide securely in custom extruded aluminum side beams in a variety of manual and motorized operations including: Spring Assist, manual chain hoist, 18î per second in tube motor, and 30î per second external jackshaft. Other standard features include: a reverse safety feature and standard rubber side seals & baffle.

Like in any business, the customers know what works best for them ... Using their feedback and requests we have developed a door that is not only functional and low maintenance but also affordable.

Goff's G-2 Door line was adapted from tremendous research and communication with users and distributors. Like in any business, the customers know what works best for them, states Tony Goff, President of Goff's Enterprises, Inc. Using their feedback and requests we have developed a door that is not only functional and low maintenance but also affordable.

Another great option available from Goff's, is the Bug Blocking Side Seal

Door. The Bug Blocking Side Seal Doors have all the same great benefits that the G-2 Lite offers in a side sliding manual option. The Bug Blocking Side Seal Door is a Best in Class economical solution that offers increased productivity by providing additional employee comfort. The Bug Blocking Side Seal Doors include a wall bracket to secure the door when in use and a tie back strap to keep it out of the way when not in use. All of Goff's Bug Blocking Doors and G-2 Lite Doors aid in

the compliance of: FDA, AIB, IPM, ASI & HACCP Food Safety Programs.

Goff's Enterprises has been manufacturing a wide variety of flexible industrial space partitioning products for over 25 years. Based in Pewaukee, Wisconsin, Goff's product line includes curtain walls, welding curtains & screens, high speed industrial vinyl and mesh roll-up doors, strip doors, sound control products, climate control curtains, food processing curtains and more.

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Fumigation: An Effective Pest Control Method for the Food Supply Chain of Custody

Fumigation treatments will safely and effectively mitigate pest pressures and keep human, animal and pet food products safe for consumption. With a comprehensive assessment and the proper gas selection, a fumigation can be performed resulting in minimal risk of client return or lost business.

By: Jeff Jones, McCloud Services

FUMIGATION

Fumigation is a method of treatment for pest control purposes that relies on a gas to control, or eliminate pests in a space. Performing fumigation work requires highly trained, licensed professionals that have an aptitude for assessing situational need and safety that can model fumigation strategies to meet client needs. It is vital that the need for fumigation be essential or required, that proper gas selection is chosen, and a comprehensive site assessment has been conducted to ensure a safe and effective fumigation.

The pest management industry has always played a critical role in helping to protect the food supply chain of custody. A farm to fork approach has been the current day mantra, a more involved, inclusive system



Structural and Container Fumigation

Photo: McCloud

of working with food based companies and growers, to help ensure the Food Supply Chain maintains a high level of product integrity. The introduction of FSMA, or the Food Safety Modernization Act, aims to ensure the U.S. food supply is safe by

shifting the focus from responding to contamination to preventing it. In order to prevent widespread food illness created by improper processing or sanitation practices, FMSA has required the pest management industry to better leverage their knowledge, program selections, educational pieces including client trainings, along with treatment strategies to keep human, animal and pet food products safe for consumption.

Fumigation remains an important element of FSMA and will successfully mitigate pest pressures when performed properly. Fumigants are often applied to soil to control soil infesting pests that can damage plant growth or crop yields, an example of just how early and important the use of fumigants can begin to protect the food supply chain. Critically important is the fumigation of primary grains, whether conducted post-harvest, as a result of over-wintering, or a function of regulatory export on shipments bound for overseas. In so many cases we have seen commodity values in bulk decline because the step of fumigation intervention was overlooked, or performed after infestation and damage had occurred.

As we move closer to the fork, we see product ingredients undergoing fumigation before the end product is finished, noting that some ingredient composition is more attractive to insect attack than others, but also protecting the finished product in

cases where the evidence found warrants the use of gas, all in an effort to protect product integrity.

WHY FUMIGATION IS A GOOD PEST CONTROL METHOD

Fumigation work in some cases will be the most linear, effective way of treating a pest problem of great acuity. The benefits of gas are many but the results are unprecedented when proper fumigation principles are employed. One of the key characteristics of a fumigant is the ability to penetrate the infestation, or area of concern, if the area is remote or concealed, or in an area that conventional practices cannot touch, such as a vessel storing ingredients where strong penetration is required. Using a fumigant will generally create contact with the target pest when proper planning has occurred and adequate exposure periods are allowed. As previously mentioned, the training and skill set of the fumigation lead will be critical in how areas are dosed and properly prepared. Considerations such as the use and placement of fans to equally distribute the gas and even consulting with the customer on product stock and inventory can make the facility more conducive to fumigation and will only enhance the end result.

The Business Impact of Pests

Rentokil Steritech and the Center for Economics and Business Research identified key trends impacting businesses and pest control. This is what they found.

By Rentokil Initial and the Centre for Economics and Business Research

INTRODUCTION

From the restaurants in South Florida shut down in March 2015 due to rats and roaches, to the food manufacturer in New York – forced to close in 2013 for a period due to rat infestation, businesses dealing with food have to be constantly on their guard.

Those for whom food is not a core part of their business should also be wary – witness the New York City asset management company whose offices had to be fumigated due to the presence of bedbugs in August 2014, causing staff to work remotely, disrupting the working day and affecting productivity.

AN INTERNATIONAL PERSPECTIVE

In order to gain insight into the challenges and issues pest infestations can present, including the economic impact, Rentokil

Steritech commissioned independent research agency Opinion Matters and the Centre for Economics and Business Research (Cebr) to identify key trends impacting businesses and pest control. Cebr has estimated that in 2014 alone, disruptions caused by pest infestations resulted in an increase of \$9.6 billion in operating costs in the countries surveyed. In the same year, revenues declined by an estimated \$19.5 billion because of pest incidences. The magnitudes of these impacts in the European countries studied can also provide useful guidance on the likely magnitude of those impacts across the rest of Europe.

It is true that humans have unwittingly helped the spread of pest infestations. Modern buildings, for example, with their

internal ducts, voids, false floors and ceilings, provide a perfect setting for pests. As evidence from Cebr suggests that the main problem with infestations in Europe is presented by rodents, let's take mice as an example.

To indulge in their natural curiosity and share our living and working space as they forage for food, they gain entry to buildings via so called "mouse motorways" – the underground cable and pipe tunnels we have built beneath our feet. They are also often "delivered" on pallets of foodstuff from a manufacturer to a customer.

Once inside, mice can squeeze through gaps .4 inch high, and require a relatively small amount of food to survive – only .1 ounce per day. When settled, they can reproduce frequently, with a gestation period of just three weeks, and litters of up to 16 pups. In perfect conditions, a pair of mice can produce as many as 200 offspring in a single year, and pups will only take up to 12 weeks to mature and also start breeding.

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