

ADVERTORIAL

State of the

COCKROACH CONTROL MARKET

FROM TYPES OF COCKROACHES
TO WHERE THEY'RE BEING SPOTTED,
*HERE'S HOW FOOD FACILITIES ARE
HANDLING THE PEST NOW.*

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The last couple years have held increased challenges for the food processing industry in many ways — from employee health and labor shortages to supply chain issues. But according to reader response to Quality Assurance & Food Safety magazine’s annual cockroach survey, the pandemic had little to no impact related to an increase or decrease of pest control service or cockroach presence in or around their food facility. Holding steady, however, does not mean the industry faced no challenges related to cockroaches, and it is those challenges — and successes — that we explore in this fourth annual State of the Market Report.

ABOUT THE SURVEY Quality Assurance & Food Safety magazine’s 2022 State of the Market: Cockroach Control in Food Facilities survey was sponsored by Zoëcon and compiled by Readex Research, a privately held research firm based in Stillwater, Minn. The sample of food and beverage processing facility managers and executives was systematically selected from the circulation file of QA. Data was collected from 207 recipients of QA’s digital magazine and/or e-newsletter at unique U.S. company locations. Of these, 115 work for a company with at least one food/beverage facility in which pest control is conducted and are the basis of this report. The margin of error for percentages is plus or minus 9 percentage points at the 95% confidence level. Charts may not add up to 100% due to rounding or the ability to select multiple responses.

**SURVEY
RESPONDENTS
WORK IN/AS:**



Food safety



Quality control/
assurance



Corporate
management



Plant manager



Purchasing/buyer



Sanitarian



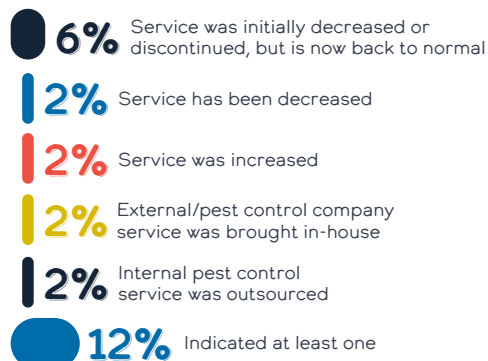
Other

Source: Readex
Research; Number of
Respondents: 115

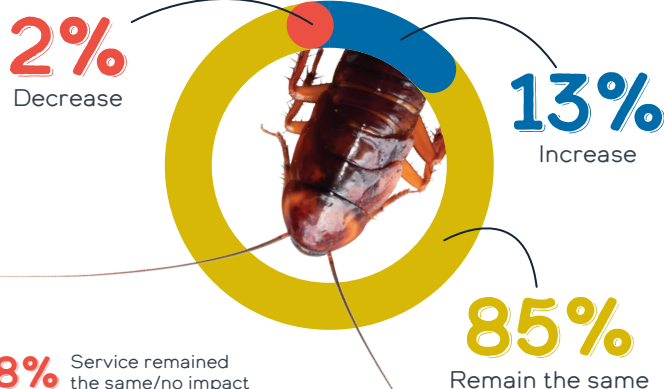
HOLDING STEADY

It is often said that one of the few living creatures that could survive a nuclear blast would be the cockroach. While that factoid may be debatable, our survey does seem to show that they can survive a pandemic. While only 8% of respondents felt the pandemic had any impact, of those, nearly two-thirds saw an increase in cockroach presence or challenges. It makes sense, then, that 88% said there was no impact on their facility's pest control services, and of the few that did see an impact, half described their service as now "back to normal." Similarly, a strong majority of respondents (85%) expect service frequency to remain the same or increase (13%) in 2022, with very few (2%) expecting any decrease in service.

DURING THE COVID PANDEMIC:



SERVICE FREQUENCY IN 2022 IS EXPECTED TO:



Source: Readex Research; Number of Respondents: 115

Source: Readex Research; Number of Respondents: 115

THEY'RE STILL AROUND

Although the pandemic was not seen to have impacted the rate of cockroach presence, cockroaches remain an issue. Nearly half of those surveyed (46%) reported that a cockroach had been seen in or around the facility. And with cockroaches most commonly thought to enter from the outside (40%) or on/in employee belongings (28%), it follows that cockroaches were primarily seen in the employee breakroom or kitchen (53%), employee lockers (32%) and outside (32%).

COCKROACHES ARE THOUGHT TO ENTER:



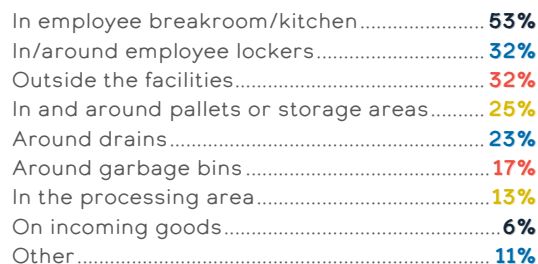
Source: Readex Research; Number of Respondents: 115

COCKROACH SEEN IN/AROUND FACILITY



Source: Readex Research; Number of Respondents: 115

COCKROACHES HAVE BEEN SIGHTED:



Source: Readex Research; Number of Respondents: 115



WHAT TO DO? WHAT TO DO!

Besides having someone see a cockroach in the facility, which is how 90% of cockroach presence was said to be determined, food facilities knew that cockroaches were present primarily through documentation in the pest service provider's report (80%) or an employee sighting log (66%) or through evidence from a monitor (49%). And the first thing the majority do if a cockroach is seen is tell their pest control technician directly (71%) or through a pest-sighting logbook (70%) — likely after killing it, as 70% also do. On the positive side, no respondent stated that they would simply ignore a cockroach and walk on by doing nothing.

IF A COCKROACH IS SEEN, WE:



71%

Contact a pest control technician



70%

Write it up in a pest sighting logbook



70%

Kill it



5%

Apply a chemical



10%

Other



0%

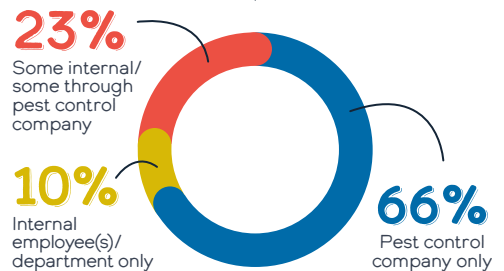
Ignore it

Source: Readex Research; Number of Respondents: 115

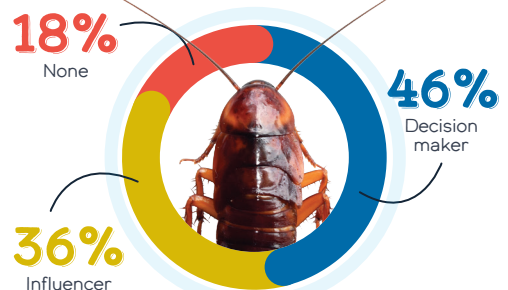
UNDER CONTROL

The Code of Federal Regulations (CFR 21) that governs food and drugs specifically states, "You must take effective measures to exclude pests from the physical plant and to protect against contamination of components, dietary supplements and contact surfaces on the premises by pests." But because the regulation does not specify who is to provide that service, there is some variation between facilities that outsource the service and have internal departments. There are other laws requiring licensing and certification for some pest control services, which is likely at least one of the reasons that only 10% of respondents stated that all pest control is conducted by an internal employee or department. This does not mean, however, that the facility has no say in how service is performed; rather, 82% of respondents said they have some say in the pesticides used by their external provider.

PEST CONTROL SERVICE PROVIDER:



LEVEL OF INFLUENCE OVER PESTICIDES USED BY EXTERNAL PEST CONTROL PROVIDER:



Source: Readex Research; Number of Respondents: 103

Going CONCERNS

Neither food nor beverage facilities see cockroaches as the pest of greatest issue, with both ranking mice as their top concern. This was particularly true among beverage facilities, of which 85% ranked mice as their most troublesome pest. The odors that emanate from food and beverage processing facilities can be attractants for many different pests, but those of alcohol and other beverage producers can be particularly inviting to rodents. Additionally, with ingredients for beverages such as wines and juices coming directly from the field, it's not a stretch to think that a mouse or two could try to hitch a ride.

Even with cockroaches ranking lower than other pests, the concerns that facilities have about cockroach presence have significantly increased over the last year in nearly all aspects. In fact, while disease spread was considered most worrisome by the 2021 survey respondents, it ranked the lowest in 2022. At the same time, food contamination, which troubled 46% of respondents in 2021, was now considered to be the top concern, with 70% seeing it as an issue. Addition-

ally, unease about customer concern should a consumer see or learn of cockroach presence moved from least concern up to second.

Overall, the depth of concern for any cockroach issue increased by 15%,

with the average percent of concern for any issue increasing to 60% in 2022 from 45% in 2021. Although only 8% of respondents felt the pandemic had an impact on cockroach presence or challenges, it may

be that the unprecedented challenges of COVID-19 caused facilities to rethink food safety and look at pest problems in new ways.

This may be somewhat evidenced by the fact that the only outlier for which concern did not increase was disease spread (45% in 2022, 53% in '21). With the transmission of COVID being front and center, the potential of disease spread by cockroaches may have seemed less significant.

On the other hand, supply chain issues, including ingredient and product shortages, caused by COVID may have increased the spotlight on the safety and quality of the food that was able to be produced. A shopper being faced with a lack of product they are used to buying provides a potential opportunity for other brands with similar products, increasing the need to ensure the satisfaction of potentially new (and existing) customers.

The increased sanitation impressed upon both businesses and consumers during the pandemic also may have increased facilities' awareness of potential sources of contamination. This could have led to greater concern, increased focus and resulting success in cockroach control.

COCKROACH CONCERN VS. OTHER PESTS

PESTS	FOOD FACILITY		BEVERAGE FACILITY	
	RANK	PERCENT	RANK	PERCENT
Mice	1	59%	1	85%
Small Flies	2	55%	4	46%
Stored Product Pests	3	51%	2	62%
Rats	4	49%	2	62%
Large Flies	5	48%	5	38%
COCKROACHES	6	46%	5	38%
Ants	7	38%	5	38%
None	8	19%	8	8%

Source: Readex Research; Number of Respondents: 102

COCKROACH PROBLEM CONCERNS

CONCERNS	2022		2021	
	RANK	PERCENT	RANK	PERCENT
Food contamination	1	70%	3	46%
Customer concern	2	62%	5	37%
Rapid reproduction	3	61%	2	49%
Inspection/audit citation	4	60%	4	42%
Disease spread	5	45%	1	53%
OVERALL CONCERN AVERAGE		60%		45%

Source: Readex Research; Number of Respondents: 115



Find & FIX

Although the vast majority (96%) of respondents stated that their cockroach programs have been successful, there is a value in discussing the reasons why others weren't and what can be done when these issues occur.

1. LACK OF BUY-IN BY THE STAFF. Rather than simply training staff on what to do to keep pests under control, it is better to educate them on why it is essential and why their actions are important. For example, sanitation is a key area for the prevention of cockroaches, as they can live in the smallest of gaps in equipment and survive on crumbs of food. And once established, populations can quickly build. Cockroaches can carry bacteria that cause food contamination leading to consumer illness and food recalls. Because of this, a sighting during an inspection can lead to company fines and shutdowns. Or even more directly, explain that because cockroaches have high reproductive



Source: Readex Research; Number of Respondents: 115

capabilities, an unreported sighting can quickly lead to an infestation that contaminates food produced in the plant — including any that employees take home to their families.

2. COCKROACHES CONTINUED TO BE BROUGHT IN ON EMPLOYEE BELONGINGS. While this can be a difficult area to manage, it is not impossible. Maintaining

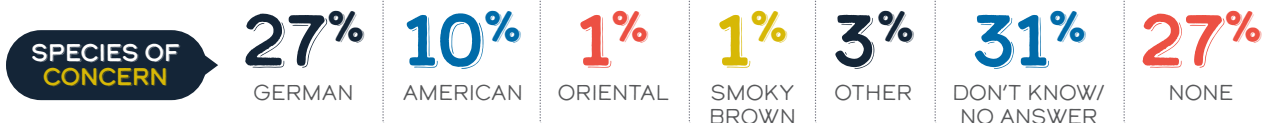
regular checks of employee lockers and changing areas, placing monitors that are frequently checked and taking action immediately when even a single cockroach is found can help prevent a budding infestation. If an employee's belongings or locker are regularly found to be a source of cockroaches, you may need to seek assistance from your human resources manager to discuss the issue and develop interventions.

3. COCKROACH SITES UNABLE TO BE LOCATED. The first step in determining the most likely source of a cockroach issue is identifying the species. Correct identification is important because different species have different habits, preferred harborage areas and food preferences, so no single detection or control method will necessarily work for all. Your pest control service provider — whether in-house or outsourced — should be knowledgeable about all cockroach species, their

identification, habits and control. For example:

- o German cockroaches (the bane of food facilities) are tiny pests, so they can harbor within the cracks and crevices of equipment, as well as behind the walls and other void areas. They prefer to be in warm areas close to food and water sources.
- o American cockroaches are much larger and are more likely to live outdoors but will move indoors and take up residence if conditions are right. They are most likely to be found around sewers, drains and other warm, moist areas.

While a facility may not see any one of the three concerns as being of significant consequence in managing cockroaches, all are needed for success. Without staff buy-in, the environment is likely to be conducive to cockroaches. When cockroaches are brought in with employees, infestations can easily build. If the cockroach harborage can't be located, control can quickly become a losing battle.



Source: Readex Research; Number of Respondents: 115

Combating COCKROACHES

The concept of integrated pest management (IPM) took hold in the 1970s.

In response to our survey on the use of IPM in facilities, 83% asserted their use of IPM at least to some degree, while 11% stated that they did not know what IPM is. However, with 96% of respondents implementing preventive measures and 100% conducting some sort of exclusion, it seems that many of the 11% may be implementing IPM without realizing they are doing so. So what are food and beverage facilities doing for prevention, exclusion and control?

EXCLUSION. About one-third (36%) of respondents also use exclusion as a means of prevention. Of those, nearly all (98%) seal cracks and gaps in the structure to keep cockroaches — and other pests — from entering. Door sweeps and air doors are nearly as popular, installed by 93% of respondents. Door sweeps are essential for keeping insects from finding floor-level gaps, and air doors can be useful in areas where it is difficult to keep doors closed. Even when employees are instructed to keep doors

PREVENTION

Regular inspections
79%

Insect monitoring
73%

Residual pesticide applications
43%

Exclusion
36%

Other
16%

Nothing
14%

Source: Readex Research; Number of Respondents: 115

closed, as is done by 85% of respondents, there can be slip-ups, making air doors a good choice for pest management in these areas.

PREVENTION. Regular inspection, which can include monitoring, is being conducted by the majority of respondents (79% and 73%, respectively). These proactive initiatives are key to a successful IPM program as they enable the detection of cockroach presence and identification of the species. The judicious use of a targeted pesticide application can also work as a preventive tool to keep the insects from entering the facility, particularly food areas.

EXCLUSION

Sealed cracks and gaps
98%

Installed door sweeps or air doors
93%

Instructed employees to keep doors closed
85%

Cut back branches and shrubbery from building
68%

Other
17%

Source: Readex Research; Number of Respondents: 41

CONTROL. Control efforts can involve both non-chemical mechanical as well as chemical treatments. Both are being used by respondents internally and externally. In fact, there is no single method that is used by the majority of respondents inside their facility or around the property. What can be seen, however, is that most facilities use some method of control either internally, externally or both.

While IPM is based on certain standards of prevention, exclusion and control, the program can be customized in a variety of ways to provide for the

CONTROL

INTERNAL CONTROL

Traps	48%
Bait	35%
Residual treatments	21%
Repellents	14%
IGRs*	7%
Other	18%
Don't know	9%
None	17%

*Insect growth regulators

EXTERNAL CONTROL

Perimeter spray	36%
Bait	30%
Repellents	19%
Granules	10%
IGRs*	2%
Other	3%
Don't know	18%
None	25%

Source: Readex Research; Number of Respondents: 115

greatest success. It is interesting to note that 96% of respondents answered positively to both whether they implement preventive methods and whether they see their cockroach program as being successful, providing a strong alignment of the importance of the most basic step of IPM — prevention — with cockroach control success.

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