ADVERTORIAL

STATE OF THE COCKROACH MARKET

From types of cockroaches to where they're being spotted and at what frequency, here's how food facilities are handling the pest now and how COVID-19 has impacted the efforts.

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Cockroaches in Food Facilities

There is no question that cockroaches are a potential problem anywhere that food is produced. But just how prevalent are they in food and beverage processing facilities? What are the facilities doing to control cockroaches? What impact did the COVID-19 pandemic have on pest control services in food facilities? Discover the challenges businesses are facing today, and the solutions they are implementing, in QA's 2021 State of the Market: Cockroach Control in Food Facilities, sponsored by Zoëcon, derived from the responses to our January reader survey.

Table 1. Proportion Who Have Had a Cockroach Sighting

(Source: Readex Survey 2021; Number of respondents: 131)

YES	NO	NOT SURE	NO ANSWER
40%	47%	12%	1%

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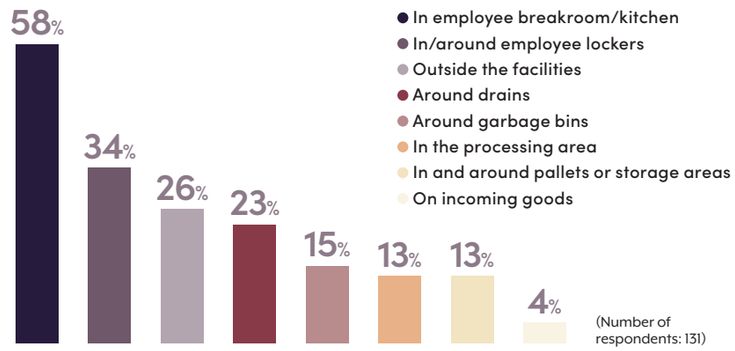
Survey Says

Although fewer than half of those surveyed responded that a cockroach had ever been seen in or around the food facility, 40% is still too many **(Table 1)**. This is particularly true because, as explained by the Centers for Disease Control and Prevention (CDC), "Cockroaches are primarily nocturnal. Daytime sightings may indicate potentially heavy infestations." During the day, cockroaches tend to hide in cracks and crevices and can move freely from room to room (or adjoining units of multi-unit complexes) through wall spaces, plumbing, and other utility installations.

Of the 53 facilities at which cockroach(es) were seen, these were discovered:



This is unsurprising given that respondents believe the most common way that cockroaches enter food or beverage facilities is in or on employee belongings **(Table 2, next page)**, which would account for the cockroaches being discovered in employee breakrooms or kitchens and in or around employee lockers.

However, with 20% of respondents believing that cockroaches most commonly come in with deliveries, there seems to be a disconnect with only 4% of sightings noted as being on incoming goods. This could indicate that the cockroaches are getting into the facility quickly (as 13% saw cockroaches in and around pallets or storage areas) and that facilities should be better monitoring suppliers and their incoming goods prior to them being brought in and stored. →

SURVEY SQUAD

POSITIONS HELD

Quality control/assurance	36%
Food safety	27%
Corporate management	21%
Plant manager	2%
Pest management	2%
Purchasing/buyer	2%
Sanitarian	1%
Other	11%

(Number of respondents: 131)

NUMBER OF FACILITIES

20 or more	11%
10 to 19	3%
5 to 9	11%
2 to 4	34%
1	40%

(Number of respondents: 131)

FACILITY LOCATIONS

Internationally	22%
Nationally	19%
Regionally	15%
Locally	44%

(Number of respondents: 79, those with more than one facility)

FOODS/BEVERAGES PRODUCED

Sugar, candy, nuts snack foods	28%
Ready to eat	26%
Meat, seafood	23%
Baked goods	23%
Canned or frozen fruits, soups, vegetables	18%
Fresh-cut produce	16%
Dairy	14%
Oils, fats, malt	11%
Liquor, soft drinks, other beverages	11%
Vitamins, supplements	8%
Other	22%

(Number of respondents: 131)

In addition to sightings, cockroaches are also being detected through a pest service provider's report (69%), employee sighting log (60%), and monitors (38%) (**Table 3**). These responses correlate with the actions taken if a cockroach is seen in a food facility as 68% of respondents write up the sighting in a pest sighting logbook, and 63% contact a pest control technician. In no cases, according to respondents, would the cockroach sighting simply be ignored. **(Table 4)**

The species of greatest concern to respondents was the German cockroach **(bottom chart).**

Although 40% expressed no concern with any of the listed potential problems that cockroaches can cause in a food facility, the 60% who expressed concern, saw the most problematic as being disease spread (53%).

Just how concerned were they?...

Cockroach Concerns	Concerned	How Concerned? Very (5) to Not At All (1)
Disease spread	53%	5: 30% | 4: 8% | 3: 20% | 2: 13% | 1: 29%
Rapid reproduction	49%	5: 37% | 4: 11% | 3: 19% | 2: 6% | 1: 25%
Food contamination	46%	5: 42% | 4: 11% | 3: 15% | 2: 9% | 1: 23%
Inspection/audit citation	42%	5: 30% | 4: 12% | 3: 18% | 2: 14% | 1: 25%
Customer concern	37%	5: 34% | 4: 12% | 3: 16% | 2: 8% | 1: 27%

(Number of respondents: 131)

Common Cockroach Species

When asked the cockroach species of which they were most concerned, the highest percentage **(32%)** selected German cockroaches and another **20%** said none. But **31%** of respondents said they did not know. So, following are the percentages of respondent concern, with briefs on each of the primary species:

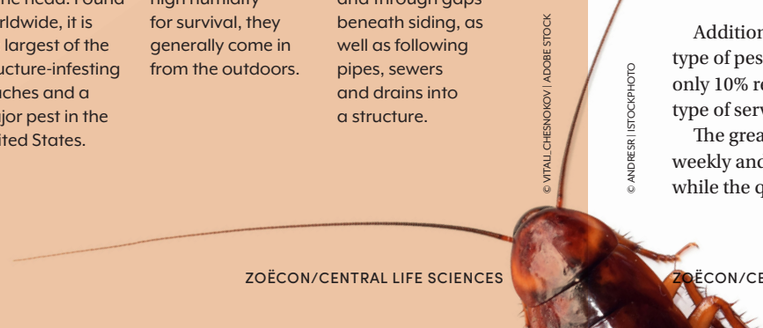
(Number of respondents: 131)

32%
German
(½"–⅝" long)
Light brown to tan, with two dark, almost parallel stripes located on their backs, just behind their heads. The most common species worldwide, it prefers hidden, warm, humid places close to food and moisture.

12%
American
(1¼"–2⅛" long)
Typically reddish brown with a yellowish figure 8 pattern on the back of the head. Found worldwide, it is the largest of the structure-infesting roaches and a major pest in the United States.

3%
Smoky brown
(1¼"–1½" long)
Dark brown to black with wings longer than their bodies. Requiring high humidity for survival, they generally come in from the outdoors.

2%
Oriental
(1" long)
Shiny black to dark reddish-brown color. They enter from the outside under doors and through gaps beneath siding, as well as following pipes, sewers and drains into a structure.



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2. Suspected Cockroach Entry

On/in employee belongings	32%
From the outside	29%
With deliveries	20%
Other	2%
Not sure	16%
No answer	1%

3. Method of Determining Cockroach Presence

Sightings	87%
Pest service provider's report	69%
Employee sighting log	60%
Monitors	38%
Other	6%

4. Actions Taken If a Cockroach is Seen

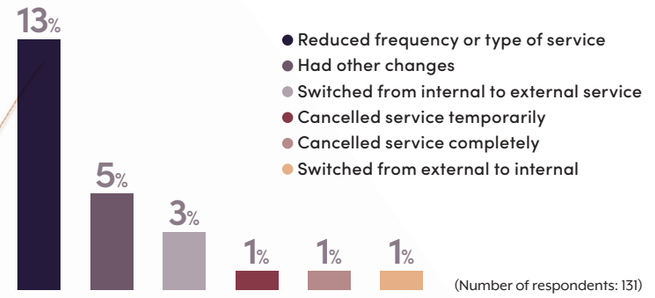
Write it up in a pest sighting logbook	68%
Contact a pest control technician	63%
Kill it	57%
Apply a chemical	5%
Ignore it	0%
Other	10%
No answer	1%

(Number of respondents: 131)

Pandemic Impact

The food industry faced a vast array of challenges in 2020 due to the COVID-19 pandemic, including reduced workforces, increased focus on worker protections, a shift in consumer buying trends and related production changes, and limited accessibility for external service providers. With that, it could be expected that there would be a significant shift in regular pest control services. However, 79% of the survey respondents stated that the facilities in which they worked saw little to no impact on their pest control services during the pandemic.

Of the 21% that did see some impact on their pest control service:



(Number of respondents: 131)

Additionally, the vast majority of respondents (85%) continued to have the same type of pest control services at the same frequency in their facilities as in 2019, with only 10% reducing their services. In fact, 4% of respondents increased the frequency or type of service in 2020. (**Table 5**)

The greatest shift seems to have been a reduction in the frequency, as both the weekly and monthly service frequency rates shifted slightly downward during COVID while the quarterly, "as needed," and no set schedule rates trended slightly upward. ●

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5. Frequency of Pest Control Service

	Before COVID	After COVID
DAILY	3%	3%
WEEKLY	51%	50%
MONTHLY	36%	34%
QUARTERLY	3%	4%
ANNUALLY	0%	0%
ON "AS NEEDED" BASIS	1%	4%
NO SET SCHEDULE	3%	5%
NO SERVICE PRIOR	3%	n/a

(Number of respondents: 131)

Control Measures

To set the basis for how companies control pests in their facilities, the survey asked whether respondents' facility services were conducted by an internal person or outsourced. The vast majority outsourced their services in full (63%) or in part (24%); only 11% used only internal employees to provide pest control. **(Table 6)** Although only a very small percentage (2%) stated that they had no pest control, this provokes questions as the Food Safety Modernization Act (FSMA) does mandate pest control as a preventive control and USDA includes pest control as a sanitation standard.

As shown in **Tables 7-10**, respondent facilities implemented the following control and/or preventive practices:

- **Interior Control (Table 7).** With 61% of respondents stating that some type of cockroach control is implemented within the facility, the most common methods were baits (34%) and traps (33%). It is somewhat concerning though that 25% had no interior control, as regardless of the suspected method of entry (Table 6), cockroaches can get into food facilities, shelter in hidden areas to breed, and emerge to contaminate food and food surfaces.
- **Exterior Control (Table 8).** Only 33% of respondents said that exterior cockroach control is implemented, with 27% implementing perimeter spraying and 25% utilizing baits. But with only 29% having responded that cockroaches were suspected to come in from the outside (**Table 6**), this correlates well, showing that it is likely those who suspect that cockroaches come in from outdoors as being those who implement controls in that area.
- **Prevention (Table 9).** While only 61% of respondents implemented interior controls against cockroaches **(Table 7)**, a full 91% did implement preventive measures. The most common of these was regular inspections (74%), with insect monitoring (62%) the second most predominant method.
- **Exclusion.** Of those that implemented preventive measures in their facilities, 29% said that exclusion was a key factor of these. **These include:**
  - **89%:** Sealed cracks and gaps
  - **87%:** Instructed employees to keep doors closed
  - **82%:** Installed door sweeps or air doors
  - **53%:** Cut back branches and shrubbery from building
  - **16%:** Other
- **IPM (Table 10).** It is a positive sign that 68% of facilities reporting have implemented Integrated Pest Management (IPM) as it is recommended by pest control industry professionals, as well as many state and government publications. However, not only are 12% not implementing IPM, 12% do not even know what it is. If you, or any of your employees are among that 12%, there are a number of references that can provide more information and recommendations for its implementation. Following are a few from QA:
  - **Do You "IPM"?**
  - **IPM: The Plan You Need to Stay in Business**
  - **How to Ensure Your Facility Remains Pest-Free**
  - **Regulations Surround Pest Management**

6. Pest Control Provider

Pest control company only	63%
Internal employee(s)/department only	11%
Some internal/some through pest control company	24%
Do not have pest control at our facility	2%

7. Types of Cockroach Control Used: Inside Facility

Indicated at least one	61%
Bait	34%
Traps	33%
Residual treatments	18%
Repellents	15%
IGRs	9%
Vacuuming	6%
Other	4%
None	25%
Don't know/No answer	14%

8. Types of Cockroach Control Used: Around Exterior

Indicated at least one	33%
Perimeter spray	27%
Bait	25%
Repellents	14%
Granules	7%
IGR	5%
Other	49%
None	16%
Dont know/No answer	4%

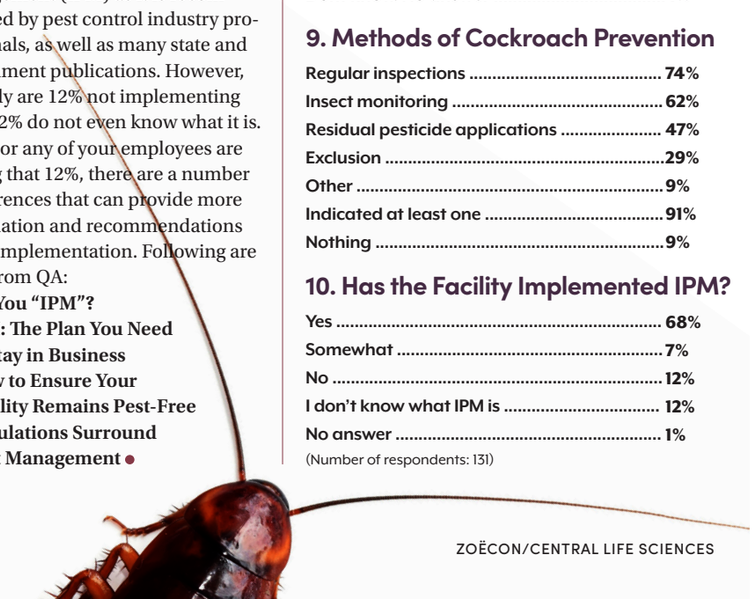
9. Methods of Cockroach Prevention

Regular inspections	74%
Insect monitoring	62%
Residual pesticide applications	47%
Exclusion	29%
Other	9%
Indicated at least one	91%
Nothing	9%

10. Has the Facility Implemented IPM?

Yes	68%
Somewhat	7%
No	12%
I don't know what IPM is	12%
No answer	1%

(Number of respondents: 131)



About This Survey

Sponsored by Zoëcon, QA's 2021 State of the Market: Cockroach Control in Food Facilities survey was conducted by Readex Research, a privately held research firm based in Stillwater, Minn. The January 2021 survey sample of food processing managers and executives was systematically selected from the circulation file of Quality Assurance & Food Safety (QA). Data was collected from 242 recipients of QA's digital magazine and/or e-newsletter at unique U.S. company locations. Of these, 131 work for a company with at least one food/beverage facility and are the basis of this report. The margin of error for percentages is ±8.4 percentage points at the 95% confidence level. Specific results may not add up to 100% due to rounding or the ability to select multiple responses.

Looking Ahead

In comparing the anticipated frequency or type of pest control service for 2021 with that of 2020, most respondents (82%) expect these to continue at about the same rate (**Table 11**). However, there also were a significant number of respondents who do expect their service to increase somewhat or significantly this year (13%).

This may be due, at least in part, to the 14% who had reduced or temporarily cancelled services during the pandemic reverting to pre-COVID levels once things return (as much as possible) to "normal." However, with only 79% having stated that the facilities in which they worked saw little to no impact on service during the pandemic, there are likely at least some who reduced services and don't expect to reinstate them to pre-COVID levels.

But whether service type or frequency was reduced, increased, moved internally or externally, or otherwise changed, the vast majority of respondents (95%) feel that their cockroach programs have been successful, particularly as only 2% believed them to be unsuccessful (**Table 12**).

11. Anticipated 2021 Change in Frequency/Type of Pest Control Service

Increase significantly	4%
Increase somewhat	9%
Remain the same	82%
Decrease somewhat	2%
Decrease significantly	2%
No answer	2%

12. Has Cockroach Control Been Successful?

Yes	95%
No	2%
No answer	3%

(Number of respondents: 129, those who have pest control)

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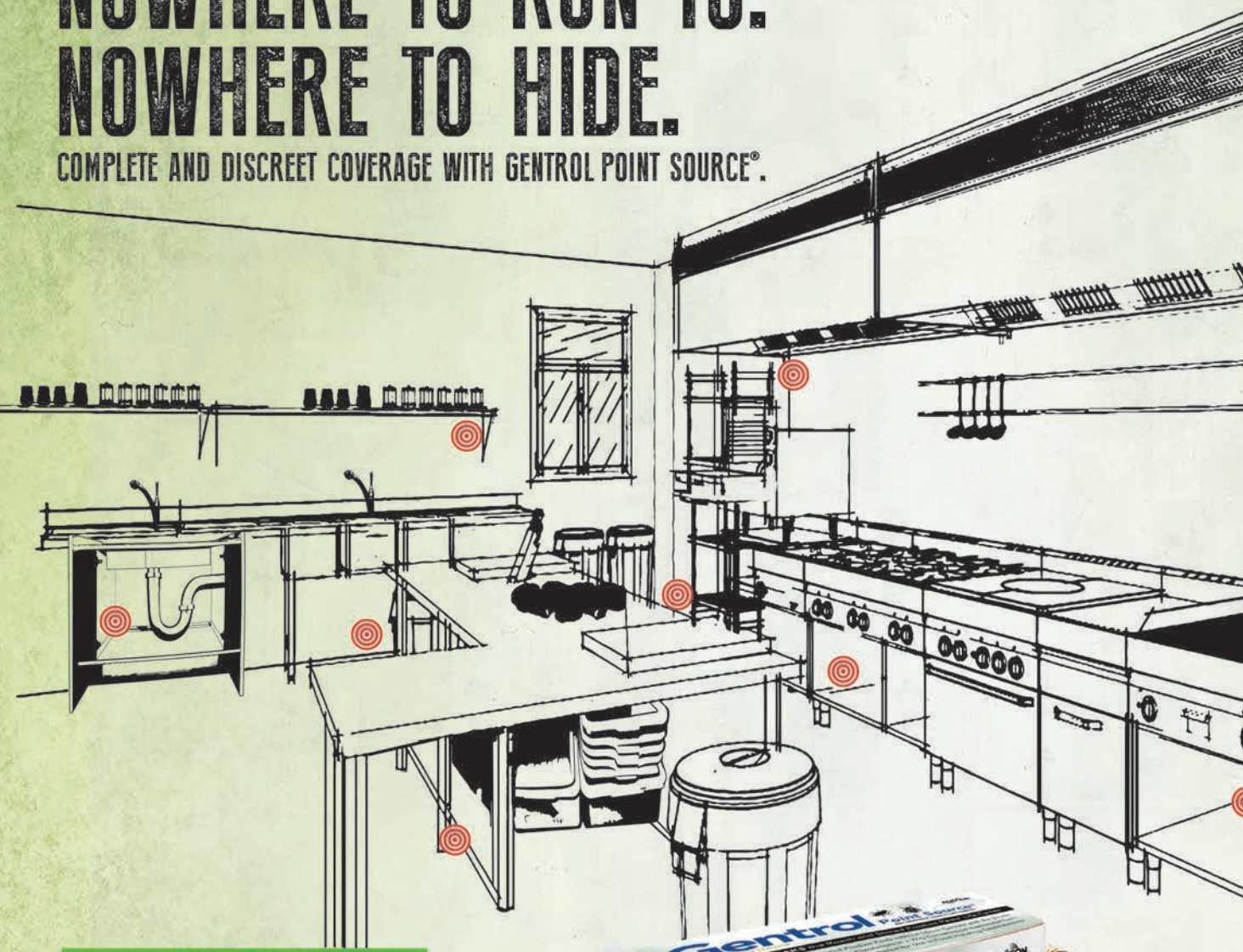

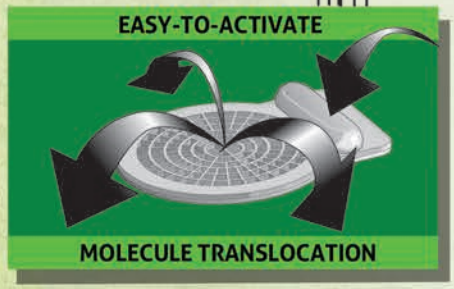

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