

ADVERTORIAL

State of the **Rodent Control Market**

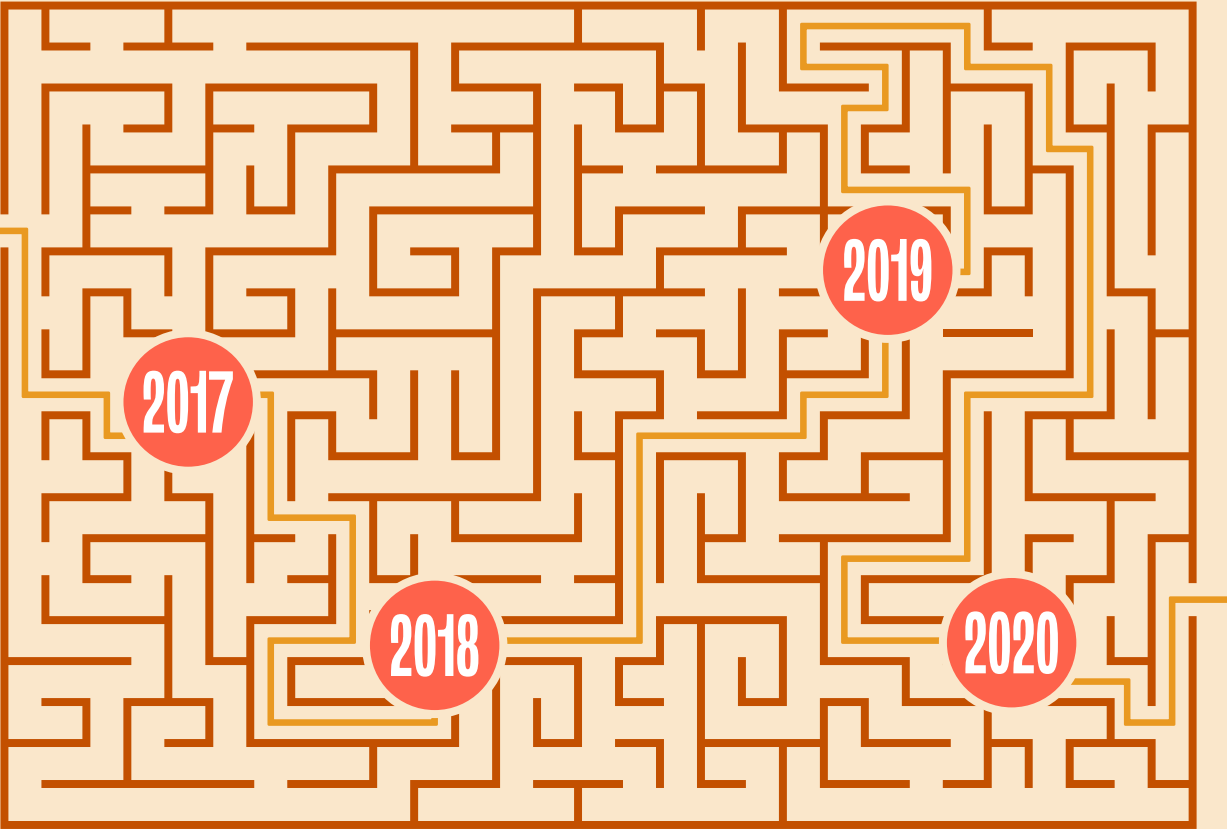


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Rodent Activity Through the Years

AS RECENT TIMES HAVE SHOWN, a lot can change in the space of a year. Given that premise, we could expect a much greater amount of change in the space of four years. But does that hold true when it comes to rodent control?

For the last four years, QA magazine has teamed with Senestech to produce an annual State of the Market Report on Rodent Control in the Food Industry. With many of the questions remaining the same each year, we are able to take a look back at the year-to-year trends to determine if and how rodent presence and industry perspectives have changed — and what that means related to rodent control.

An interesting marker of change

through the years is the respondents’ perspective on the rodents that are of most concern in their facilities. Throughout the years, the top rodent species of concern has been mice, but in 2020, the gap between the top concern (mice, 46%) and respondents stating that no rodents were of high concern (34%) were significantly reduced — to a difference of only 12%. Prior to that, the closest variation between respondents citing a rodent species as being greatest concern and those citing no rodent as being of great concern was 48% in 2017. (Table 1)

The reason for this dramatic decrease can likely be explained by the significant change in percent of respondents who

had seen rodents in or near their facility. While nearly all respondents (95%) stated that rodents had been seen in/near their facility in 2017, only 52% did in 2020. The intervening years saw a somewhat gradual progression toward this, although 2018 and 2019 were statistically equivalent. (Table 2)

If judged by the results of the survey, however, those few rodents that were seen still were able to cause infestations. While few saw an increase in infestations since the previous year, the response that the number of infestations had “stayed the same” since the previous year was consistently the highest response. Additionally, fewer respondents saw infesta-

1. RODENTS OF MOST CONCERN	2020	2019	2018	2017
Mice	46%	77%	72%	68%
Rats	12%	29%	30%	23%
Other	9%	21%	26%	10%
None	34%	9%	14%	20%
2. RODENTS SEEN IN/NEAR FACILITY				
Yes	52%	69%	68%	95%
No	37%	26%	28%	4%
Unsure/no answer	11%	4%	4%	1%
3. RODENT INFESTATION OCCURRENCE CURRENT VS. PAST YEAR				
Increased	5%	3%	7%	4%
Stayed the same	81%	40%	40%	55%
Decreased	13%	26%	20%	39%
4. RODENT DAMAGE OF CONCERN				
Food contamination	57%	70%	71%	61%
Customer concerns	51%	65%	64%	58%
Inspection/audit citation	57%	64%	63%	56%
Damage to packaging, structure, etc. ...	48%	56%	54%	51%
Disease spread	45%	50%	50%	45%
Rapid reproduction	42%	51%	48%	42%
Food consumption	36%	43%	46%	39%
Indicated none	33%	19%	25%	31%

tions as having decreased in 2020 (13%) than in 2017 (39%). (Table 3) While the COVID-19 challenges of 2020 could have had some impact on this, it also causes us to wonder what responses would have looked like in 2016 had a similar survey been conducted then.

With all this variation, however, respondent concern about the damage that rodents can cause remained relatively the same through the years. In each year’s survey, the highest percent of respondents saw food contamination as being of greatest concern, while the few-

est responded that they had no concerns about rodent damage. The one outlier in responses of the four years was the switch between numbers ranked No. 2 and No. 3 in 2020. Whereas customer concern had come in second in 2017-2019, inspection/audit citations tied for first in 2020, with customer concerns ranking third.

In the following pages, we focus in on the rodent activity and prevention and control programs of 2020 to see if we can shed some light on what was, in so many other areas of business and life as well, a unique and challenging year. •

About This Survey

Sponsored by Senestech, QA’s 2021 State of the Market: Rodent Control in Food Facilities survey was conducted by Readex Research, a privately held research firm based in Stillwater, Minn. The April 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 195 recipients of QA’s digital magazine and/or e-newsletter at unique U.S. company locations. Of these, 129 work for a company with at least one food facility and are the basis of this report. The margin of error for percentages is ±8.5 percentage points at the 95% confidence level. The margin of error for percentages based on smaller sample sizes will be larger. Specific results may not add up to 100% due to rounding or respondents’ ability to select multiple responses or skip questions.

SURVEY SQUAD

Let’s take a look at who the survey respondents are and where they work:

POSITIONS HELD	
Food safety	36%
Quality control/assurance	34%
Corporate management	19%
Plant manager	4%
Purchasing/buyer	2%
Pest management	1%
Sanitarian	1%
Other	5%
(Number of respondents: 129)	

NUMBER OF FACILITIES	
30 or more	5%
20 to 29	3%
10 to 19	2%
5 to 9	8%
2 to 4	22%
1	36%
0	24%
(Number of respondents: 169, only those with facilities are included in remaining questions)	

FACILITY LOCATIONS	
Internationally	22%
Nationally	25%
Regionally	21%
Locally	32%
(Number of respondents: 68, those at a company with multiple food/beverage facilities)	

FOODS/BEVERAGES PRODUCED	
Ready to eat	22%
Meat, seafood	21%
Fresh-cut produce	16%
Dairy	16%
Baked goods	11%
Liquor, soft drinks, other beverages	11%
Sugar, candy, nuts, snack foods	9%
Flour, grains, cereals	8%
Canned or frozen fruits, soups, vegetables	6%
Vitamins, supplements	6%
Oils, fats, malt	2%
Other	19%
None	4%
(Number of respondents: 129)	



On Sight

WHILE FEWER RESPONDENTS reported rodent sightings in or near their facilities in 2020 than in any other year of the QA/Senestech survey (Table 2, page 3), of the 52% who did have sightings, the rodents were most frequently seen outside the facility (54%) (Table 5). However, when respondents were asked to select all sites of rodent sightings, both outdoor and interior areas were named (Table 6).

In that case, “outside the facility” still held the leading position (82%), but nearly half (45%) noted rodent sightings in warehouse or storage areas, and one-fourth saw rodents in interior dock areas. Similarly, the second most frequent location of rodent sightings was reported to be the warehouse/storage areas (25%). It comes as no surprise that these locations — where food is regularly delivered and stored — had the most sightings. And, as you will see further in this report, these also were the areas where facilities most focused their prevention and control programs.

While these sightings may evoke images of a worker seeing a mouse scurrying across the floor or a rat gnawing on a pallet of chips, the majority of rodent activity was detected through the pest service provider’s report (84%) or the capture of the rodents in exterior (74%) or interior (72%) monitors and traps (Table 7). Thus, while rodents have been “seen” in the majority of food facilities, those rodents were not running wild, but were being controlled in one way or another.

That does not rule out the potential of an employee actually seeing a mouse or rat, but nearly all facilities (95%) had policies in place for actions to take should a rodent be sighted. These include:

- **88%: Inform a supervisor.**
- **40%: Write it up in a pest sighting logbook.**
- **30%: Contact a pest control technician.**
- **17%: Other defined procedure.**
- **5%: We have no set policy for this.**

5. MOST FREQUENT LOCATION OF RODENT SIGHTINGS	
Outside the facility	54%
In warehouse/storage areas	25%
Interior dock area	7%
Around exterior trash areas	4%
In employee breakroom/kitchen	3%
On incoming goods	1%
Other	1%
(Number of respondents: 67)	

6. LOCATION(S) OF RODENT SIGHTINGS	
Outside the facility	82%
In warehouse/storage areas	45%
Interior dock area	25%
Around exterior trash areas	22%
In employee breakroom/kitchen	15%
On incoming goods	13%
In the processing area	12%
In/around employee lockers	4%
Other	6%
(Number of respondents: 67)	

7. HOW RODENT ACTIVITY WAS DETECTED	
Pest service provider’s report	84%
Exterior monitors and traps	74%
Interior monitors and traps	72%
Other	6%
No answer	1%
(Number of respondents: 129)	

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→ **RODENTS CAN TRANSMIT 200 PATHOGENS AND 35 DISEASES TO HUMANS.**



Preventive Defense

MICE AND RATS can transmit 200 pathogens and 35 diseases to humans; cause significant structural damage by chewing through materials such as plastic, wood and sheetrock; and have been known to chew through wiring, putting buildings at risk of electrical fires. With mice and rats able to produce multiple litters in a single year, with about six (mice) and up to 12 (rats) in a single litter, the potential damage wrought by the entry of a single female rodent can be significant, making prevention an essential practice for food facilities. This is particularly true when one considers the 82% of our survey respondents who stated that rodents had been sighted outside their facilities (Table 6, page 4).

So, what steps were taken to prevent those rodents from getting into the facility and causing damage? Of the 97% of respondents who have preventive practices in place (Table 8), the most common practice was that of regular inspection (95%). This was very closely followed by a focus on the areas where rodents were most frequently seen, with rodent traps near doors (94%) to prevent outdoor rodents from coming in and traps in ingredients or supplies (93%).

A high majority of facilities also prevented the entry of outdoor-originating rodents through the sealing of cracks and gaps (88%), instructing employees to keep doors closed (88%) and installing door sweeps or air doors (78%). •

8. PREVENTIVE PRACTICES	
Have preventive practices	97%
No preventive practices	1%
Unsure	2%
(Number of respondents: 129)	

9. PREVENTIVE MEASURES TAKEN	
Regular inspections	95%
Rodent traps near doors	94%
Rodent traps in warehouse/storage area	93%
Sealing of cracks and gaps	88%
Instruct employees to keep doors closed	88%
Rodent monitoring	84%
Train employees on rodent prevention	78%
Installation of door sweeps or air doors	78%
Exclusion	35%
Other	6%
(Number of respondents: 125)	

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→ 64% OF RESPONDENTS FELT THEIR CURRENT PROGRAMS WERE SUFFICIENT WITHOUT A TECHNOLOGICAL COMPONENT.



Control Panel

TYPES OF CONTROL:

- Sticky or snap traps
- Rodenticide in bait stations
- Structural modification/exclusion
- Reproductive controls
- Electronic monitoring
- Repellents

10. SERVICE PROVIDERS

● General Pest Control ● Rodent Control

Pest control operators (PCOs) only	Some internal/ some PCO	Internal only
62% 69%	33% 24%	5% 7%

11. TYPE OF RODENT CONTROL

● Exterior ● Interior

Rodenticide in tamper-resistant bait stations	Structural modifications/exclusion
88% 32%	28% 29%
Sticky or snap traps	Repellents
16% 59%	12% 9%
Other	None
10% 24%	1% 2%

12. CONTROL TECHNOLOGIES

● Reproductive Control ● Electronic Monitoring

FAMILIAR WITH					
Very:		Somewhat:		Not at all:	
10%	15%	38%	36%	49%	48%
INTERESTED IN					
Very:		Somewhat:		Not at all:	
3%	5%	41%	44%	53%	49%
IMPLEMENTED					
5%	9%				

(Number of respondents: 129)

(Number of respondents: 129)

DESPITE THE BEST preventive measures, it is inevitable that a mouse or rat will make its way into the food facility at some point, thus necessitating control practices. In most cases, this control was said to be provided by an outsourced pest control operator (PCO) for both general pest control (62%) and rodent control (69%) services (**Table 10**). Additionally, while used to differing extents, the types of control were similar for both exterior and interior control (**Table 11**):

- **Rodenticide in tamper-resistant bait stations.** These can be beneficial outdoors and where allowed indoors, not only to control rodents with rodenticide, but to monitor for rodent presence and location. This then enables the establishment of proper controls.
- **Structural modifications/exclusion.** By fixing any gaps or holes, screening vents, etc., through which rodents can enter from the outside or scurry through a building, the rodent movement can be restricted and, again, better controlled.

- **Sticky or snap traps.** Like bait stations, traps can enable both capture of rodents and monitoring of their activity. They are, however, much more visible, so care must be taken with placement.
 - **Repellents.** Like structural modifications, keeping rodents away through the use of repellents helps to prevent rats and mice from entering or freely moving about a facility.
- Control Technologies.** Over the last half decade, new technologies have been intro-

duced for rodent control, with two of these being the most predominant: reproductive controls and electronic rodent monitoring (ERM). While about half of the survey respondents were at least somewhat familiar with and interested in each of these, few had implemented either. (**Table 12**) The fact that the other half of the respondents were either not familiar with or not interested in either technology would account for some of this. But it's also likely that a reason for not implementing reproductive control was similar to 64%

of respondents reason for not implementing ERM: "It's not necessary; our current rodent control measures are sufficient." The lower response rate may also mean ongoing education of customers that these two options exist may be worthwhile. Whether food facilities controlled rodents with standard methods, such as bait stations, traps, repellents and exclusion, or implemented newer technologies, such as reproductive controls and ERM, the fact that 64% of respondents felt their current programs to be sufficient without the ad-

dition of a technological component is a fairly positive sign. As is the decrease in rodent sightings in food facilities in the years of the QA/Senestech surveys (from 95% in 2017 to 52% in 2020, **Table 2, page 3**.) With rodent management systems continuing to evolve to enhance the tried-and-true control measures being used by food facilities (**Table 10**), there are many options and little reason to tolerate rodents and the damage, disease, contamination, inspection/audit citations and customer concern that result from their rapid reproduction. ●



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