



Closing the Gaps in Food Safety Training: Results from the Global Food Safety Training Survey

An independent study in collaboration with Campden BRI, SQF Institute, BRC, Alchemy Systems, SGS, and TSI



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Overview

Food companies are under increasing pressure from customers, regulators, and consumers to improve food safety practices across the food chain. Frontline workers handling the food play a direct and critical role in food safety. But are they trained, monitored, and coached on proper food handling techniques and practices? Are they part of a strong food safety culture? Do companies have the right tools to train the modern workforce?

Food companies need hard facts to assess their own training programs and institute best practices. Alchemy Systems, in partnership with the SQF Institute, British Retail Consortium, Campden BRI, SGS, and TSI, surveyed food manufacturers and processors from around the world about their food safety training needs, successes, and challenges. The survey was sent to over 25,000 small to large companies representing a wide range of food sectors including beverage, dairy, meat, retail, packaged foods, produce, and bakery.

This global survey has become a valuable benchmarking tool for companies to compare their food safety training program with their industry peers.

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Key Insights

The Global Food Safety Training Survey reveals valuable information on food safety cultures, training practices, and opportunities to continually improve food safety. Some key insights:

Companies Are Committed to Food Safety

The vast majority of food companies recognize the importance of a positive food safety culture and the potential impact of training on driving the appropriate behaviors that strengthen a food safety mindset.

- The top three reasons cited for training employees are all related to food safety.
- 75% of respondents also believe that employees would be more productive if their food safety program was consistently applied.
- Companies are devoting significant time and resources for training their frontline workers, supervisors, and managers. However, 44% of companies are creating an exposure by not mandating the same training for their contract and temporary workers.
- Companies are covering a wide range of food safety topics including GMPs, personal hygiene, traceability, allergens, sanitation, and cleaning.

The Gap: Limited Behavioral Change

Despite the commitment to build a positive food safety culture, 62% of respondents say that not all of their employees are following the food safety program on the floor. There are likely many factors explaining the lack of on-the-floor execution, and the factors may vary by plant and company. The survey suggests several areas to explore:

- Training materials are too complex given the diverse workforce.
- The second highest type of deficiency noted by auditors was “lack of understanding by employees.”
- Training content is either not relevant or does not effectively engage younger workers.
- Supervisors and frontline employees are not “owners” of the food safety culture. Just 51% of companies use supervisors to observe and measure food safety behaviors.
- Food safety training is not consistently supplemented with refresher communications to keep important safety concepts top of mind.
- Auditors cite “lack of refresher training” as the top training-related deficiency.

Closing the Gap with Practical Solutions

Closing the gap between a company's commitment to food safety and the frontline's actual behaviors requires new thinking and approaches:

- Simplify training materials and shorten training time so that employees are not "drinking from a firehose" during training. This will also minimize time off the production floor (62% of respondents say that finding the time to train frontline workers is their biggest hurdle).
- Use modern training delivery mechanisms with interactivity, gamification, group interaction, supervisor coaching, and other learning techniques to provide an engaging and consistent training experience.
- Engage frontline supervisors and workers by validating food safety practices and employee behaviors right on the floor through documented observations. Encourage supervisors to provide coaching and reinforcement in real time.
- Reinforce classroom training with continuous "knowledge boosts" through structured team huddles, micro-courses, and signage. Research shows that learners lose 90% of training in a week.

GOOD NEWS: Companies Are Committed to Food Safety

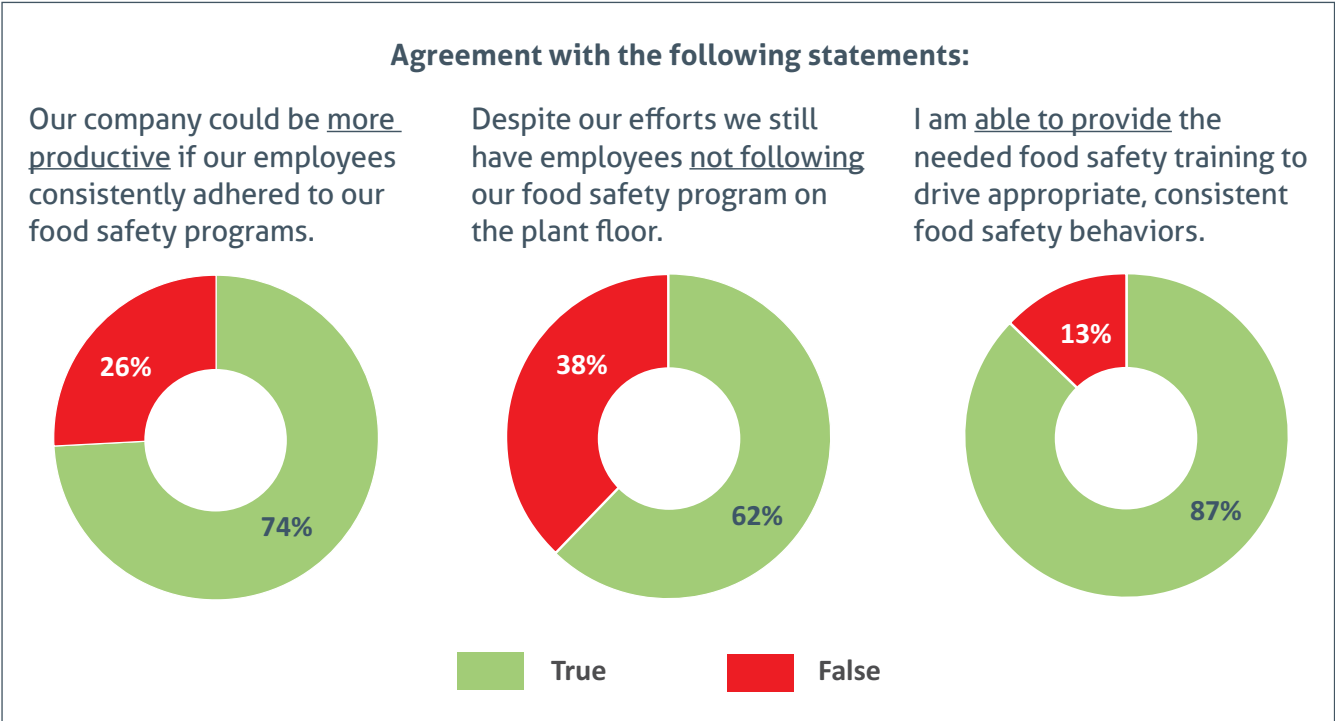
Food company managers and executives around the world generally agree that effective employee training can have a direct impact on food safety and product quality. In fact, survey respondents noted that the top three benefits from effective training are: improved food safety culture, improved product quality, and fewer food safety incidents (Figure 1).

Figure 1 **BENEFITS EXPERIENCED FROM EFFECTIVE EMPLOYEE TRAINING**



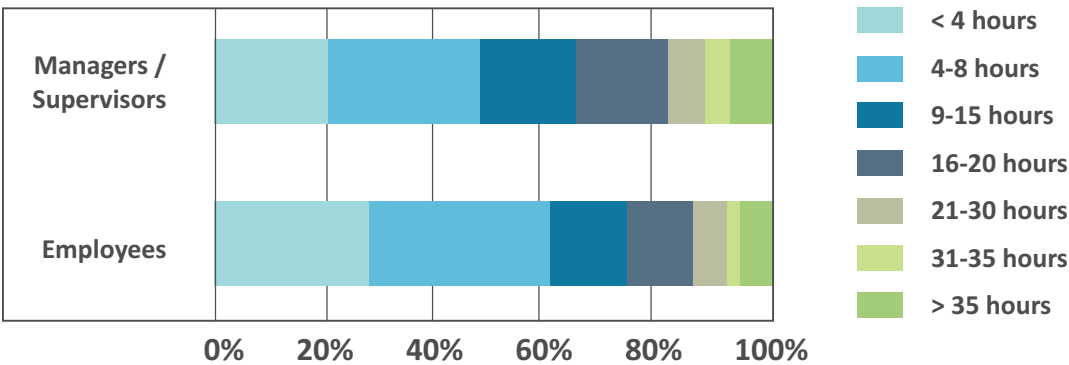
The vast majority of companies also believe that their food safety programs drive higher productivity. 74% of the respondents agreed with the statement, “Our company could be more productive if our employees consistently adhered to our food safety programs.” And 87% have the management support to provide the needed food safety training (Figure 2).

Figure 2 **FOOD SAFETY AND PRODUCTIVITY**



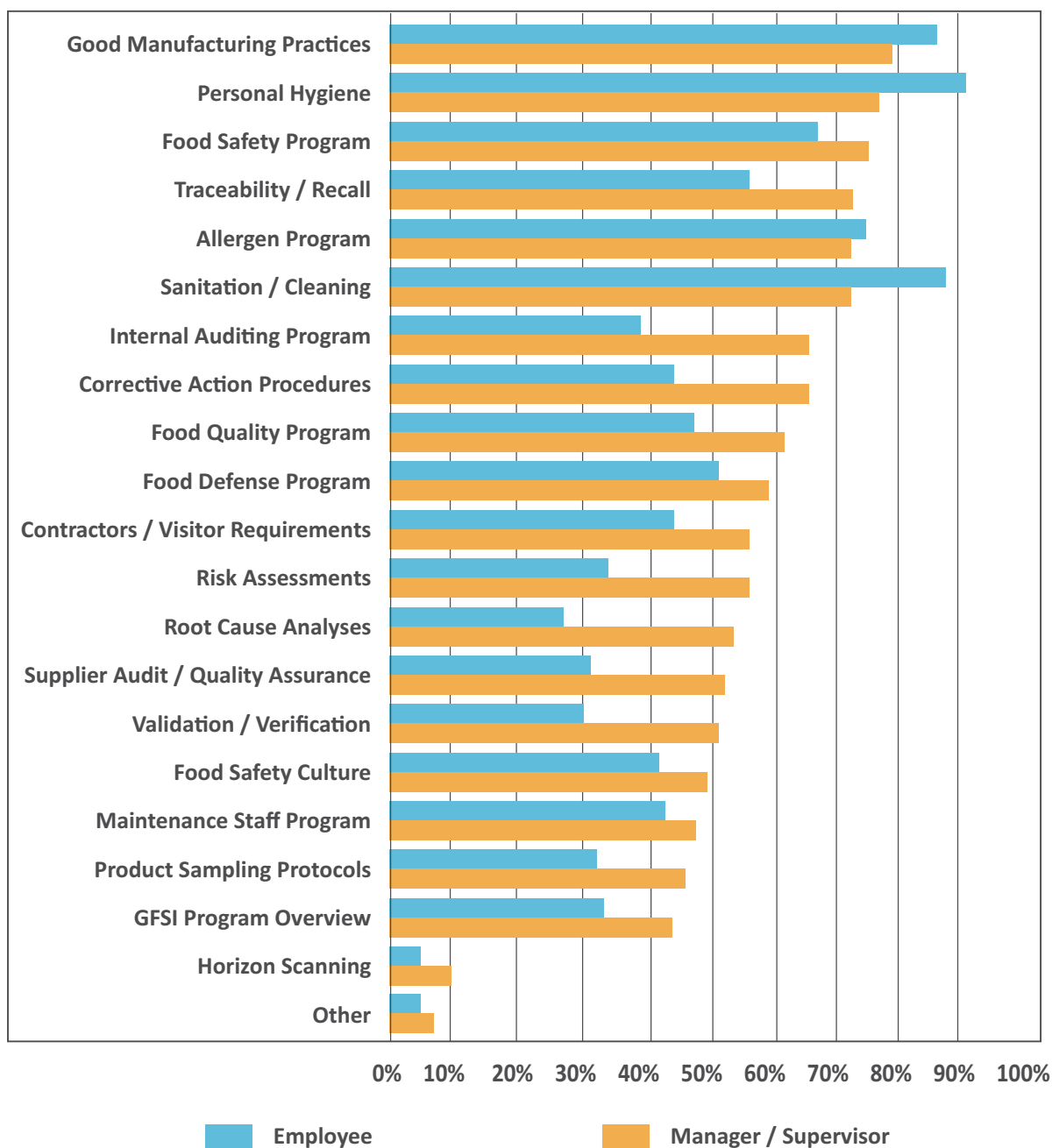
Companies are devoting significant time to food safety training. About 74% of employees get four or more hours per year of training per year. For Supervisors/Managers, 52% get nine or more hours of training per year (Figure 3).

Figure 3 **NUMBER OF HOURS OF SAFETY TRAINING UNDERTAKEN PER YEAR**



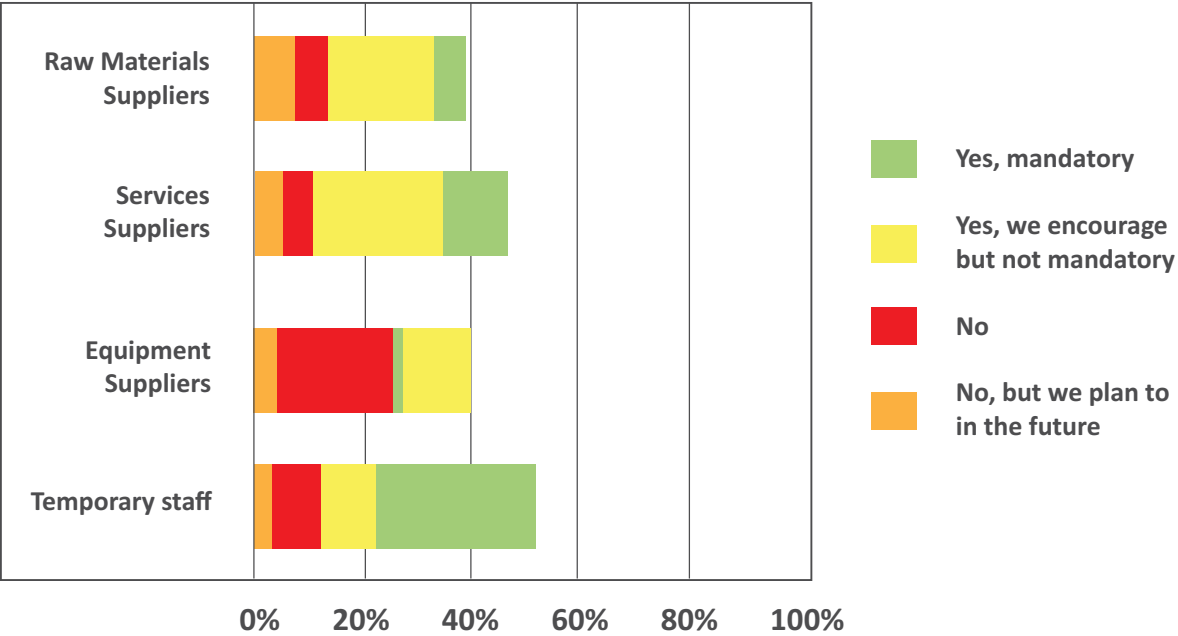
In a further effort to boost product quality and food safety, companies are covering a broad spectrum of food safety topics from allergens to sanitation (Figure 4).

Figure 4 **FOOD SAFETY TOPICS COVERED BY COMPANY TRAINING PROGRAM**



Finally, food companies are increasingly driving food safety training across their supply chains by requiring their raw materials suppliers, service suppliers, and equipment suppliers to undergo food safety training (Figure 5). The caveat is that only 56% of companies are training temporary staff – leaving up to 44% of them without the same level of training required to prevent a food safety incident.

Figure 5 **SUPPLY CHAIN TRAINING REQUIREMENTS**



THE GAP: Food Safety Commitment Not Always Translating into Behavioral Change

Despite the good news on management commitment to food safety and investments in training, the survey reveals a glaring challenge. 62% of respondents agreed with the statement, “Despite our efforts in food safety classroom training, we still have employees not following our food safety program on the plant floor.”

How is it possible that despite the resources and commitment, 62% of companies have frontline employees that do not actually follow food safety practices?

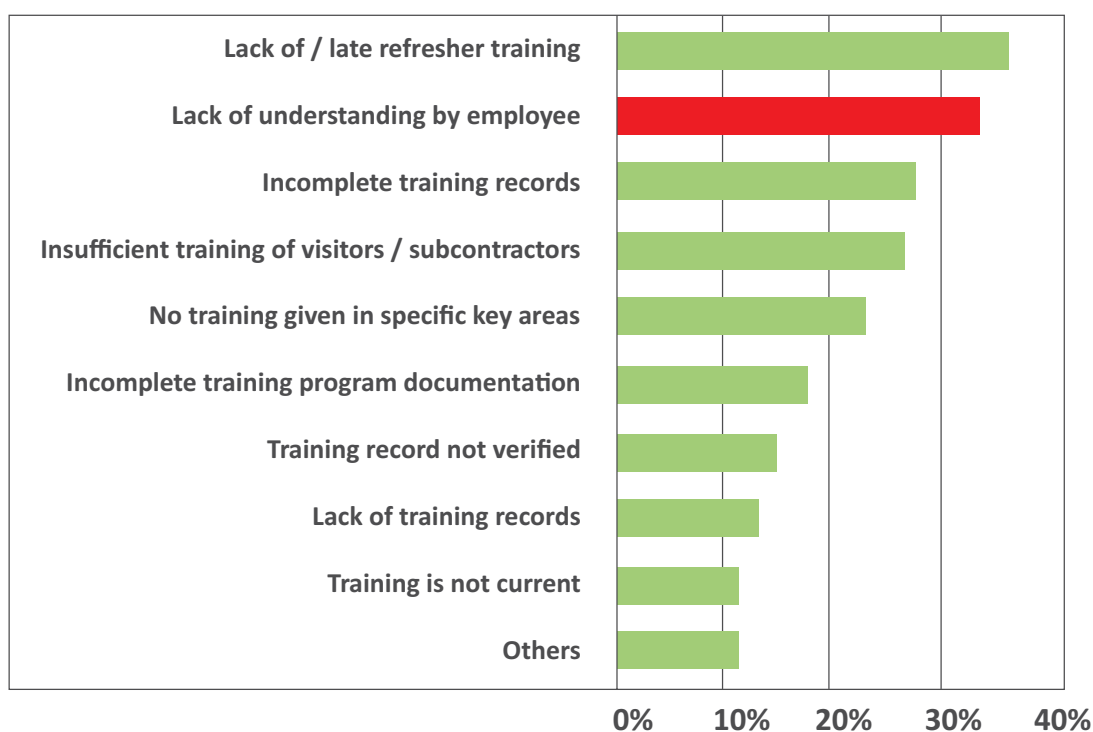
The survey and other research suggests several factors may contribute to the non-compliance:

- 1) Training is too complex for workers to understand.
- 2) Training is not engaging, especially for the younger Millennial worker.
- 3) Food safety is not a shared responsibility and is overly focused on managers to the detriment of supervisors and frontline workers.
- 4) Food safety training is not consistently reinforced.
- 5) Employee behaviors are not assessed on the plant floor to verify knowledge and application.

1) Classroom training is too complex and difficult to understand.

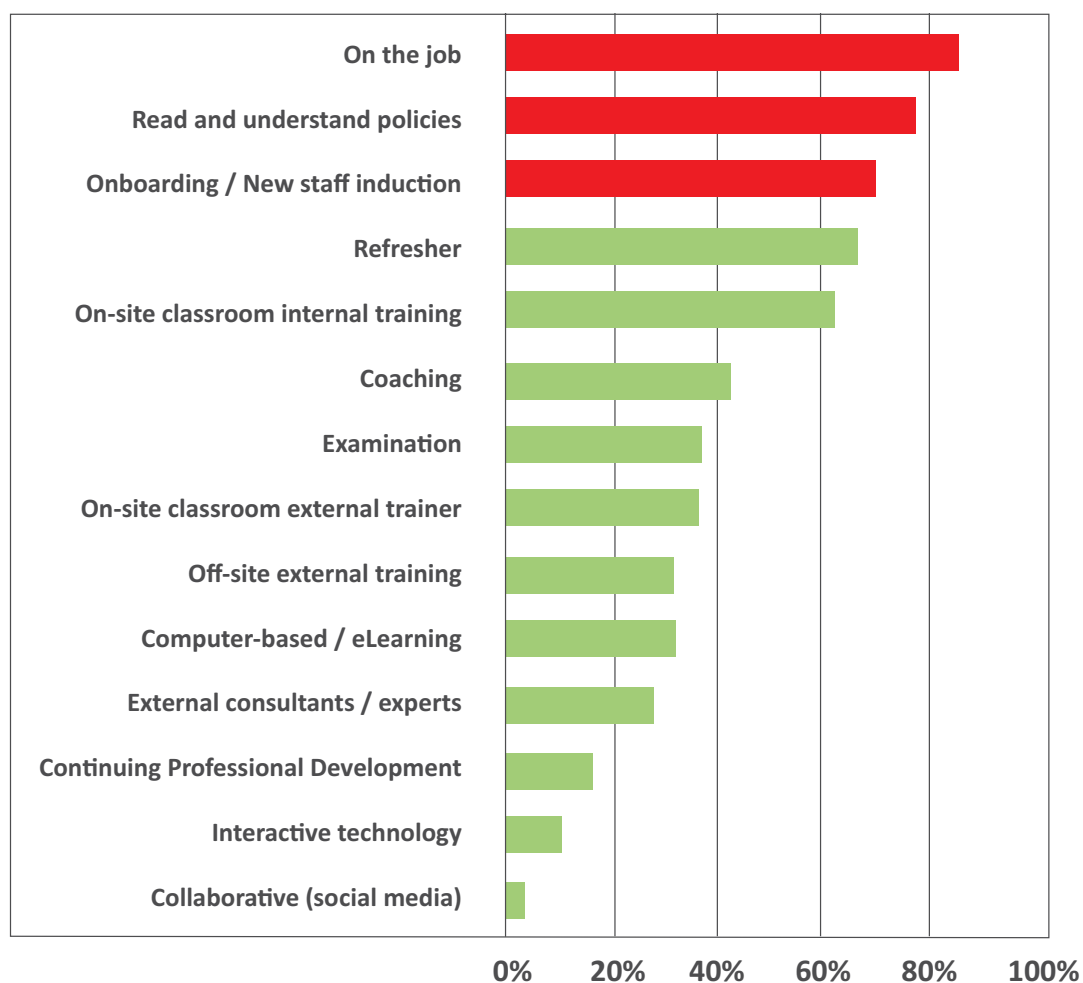
Classroom training is often too complex or doesn't connect with a worker's learning style. In fact, "lack of understanding by employee" is the second most frequent training-related audit deficiency (Figure 6). Another study ("The Mind of the Food Worker"¹) reported that 39% of food industry frontline workers said that training is too complicated and difficult to understand. The lack of understanding is driven by the fact that training materials are often unsuitable for a highly diverse workforce speaking multiple languages with varying levels of education.

Figure 6 **TYPES OF TRAINING DEFICIENCIES NOTED DURING AUDIT**



Food safety training is primarily delivered during the new staff orientation process, whether it's on the job, reading policies, or on boards (Figure 7). For new hires or experienced workers in a new role, it's like drinking from a fire hose – they are already overwhelmed with new information, and their food safety training is not likely to be remembered or make much of an impression.

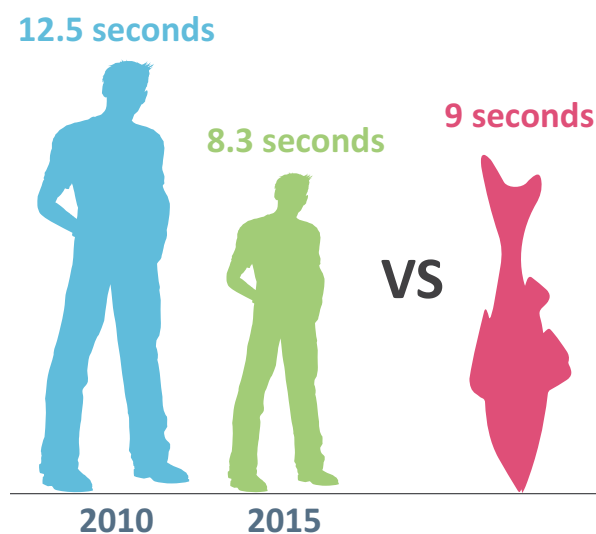
Figure 7 **TYPES OF FOOD SAFETY TRAINING UNDERTAKEN**



2) Training is not engaging, especially for Millennial-generation workers.

Today's younger workers – often called the Millennial generation (born 1983-2000) – are digital natives. They were raised on laptops, smartphones, gaming devices, and tablets. They use five to seven different screens a day. But all this digital activity is having one profound impact: it creates shorter attention spans. With the rise of the digital universe and social media, people are hyper-connected, but only for short bursts. In 2000, the average attention span was 12.5 seconds. In just five years, it dropped to 8.3 seconds – just a little less than that of a goldfish (Figure 8). The implications are clear: getting the frontline's attention and keeping it is hard!

Figure 8 **AVERAGE ATTENTION SPAN**



Source: National Center for Biotechnology Information, April 2015

Research also shows that Millennials learn differently from previous generations. They prefer interactive learning through rich multimedia and instant feedback loops. They are collaborative and quite competitive, wanting to know how they rank against their peers (Figure 9). With the preferences and learning styles of these younger workers in mind, it's easy to see why the older, more traditional training methods have become outdated.

Figure 9 **MILLENNIAL LEARNING STYLES**



Interactive

- Two-way
- Immediate, real-time feedback



Collaborative

- Social media



Competitive

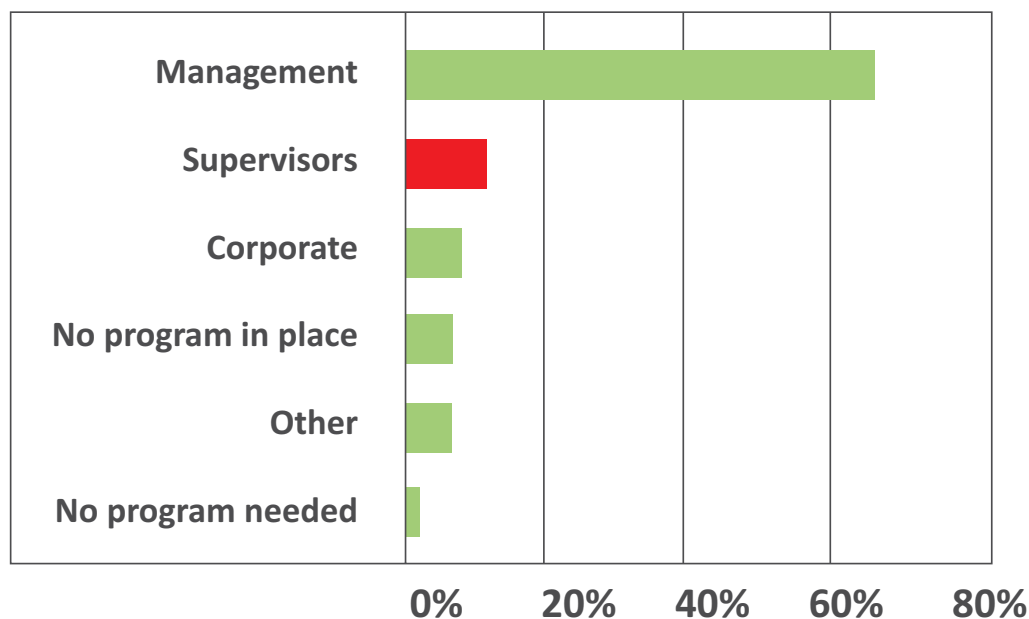
- Benchmark to peers

3) Food safety is not a shared responsibility.

When respondents were asked who has the responsibility for keeping food safety training top of mind, about 68% said management. Just 12% said supervisors were responsible (Figure 10). This is surprising since it's the frontline supervisors who have the direct contact with the operations and the workforce day-to-day and minute-by-minute.

Supervisors are the key to building and sustaining a strong food safety culture, yet they are typically sidelined and often lack the skills and tools to optimize employee behaviors. Given the appropriate training and skills, supervisors can translate the importance of proper food safety practices to get buy-in and consistent execution from the frontline workers. Without the assigned responsibility, companies are missing the opportunity to leverage these integral frontline supervisors to drive food safety compliance.

Figure 10 **RESPONSIBILITY FOR KEEPING TRAINING TOP OF MIND**



4) Food safety training is not consistently reinforced.

Food companies are undergoing more and more safety audits every year as government and customer mandates keep increasing. According to the survey, 50% of companies have 2-4 audits per year, and 31% have five or more audits per year (Figure 11).

The audits reveal several key gaps in the food safety training program. “Lack of or late refresher training” is the top training-related audit deficiency (see Figure 6).

Refresher training is an emerging area of research on modifying behaviors. “If your goal is to produce long-term retention, and if your goal is to produce behavior change, then what you do after training is more important than what you do during training,” says Dr. Art Kohn, Professor at Portland State University and noted learning expert.²

Most people are familiar with the concept of “moving down the learning curve.” There is a corollary curve called “the forgetting curve” – the amount of training forgotten over time (Figure 12). According to Dr. Kohn, people forget 90% of their training within a week.

Figure 11 **NUMBER OF ANNUAL AUDITS WITH A FOOD SAFETY TRAINING REVIEW**

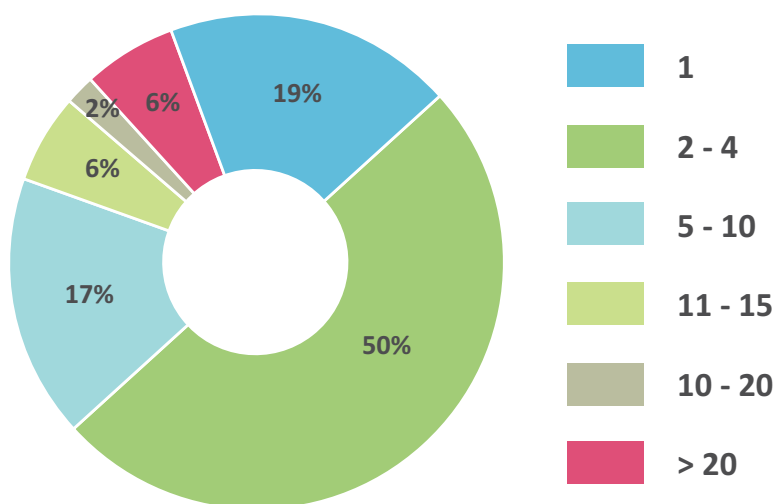
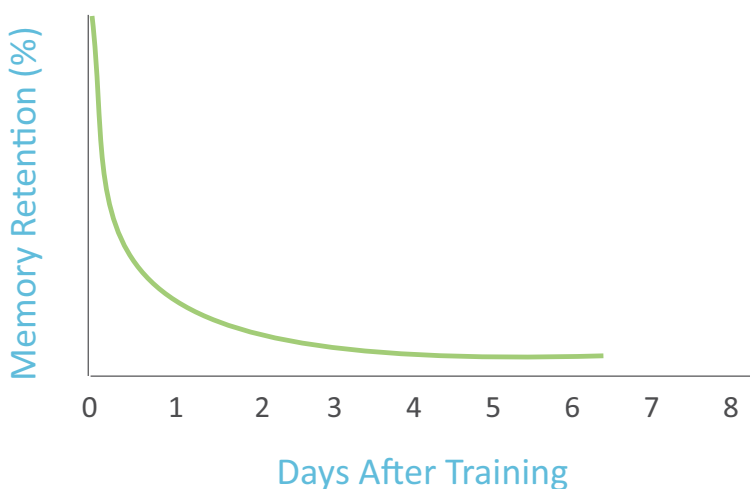


Figure 12 **THE FORGETTING CURVE – 90% OF KNOWLEDGE LOST IN A WEEK**



5) Employee behaviors are not assessed on the plant floor to verify knowledge and application.

Historically, food companies have responded to the employee training requirements of their customers by developing their food safety employee training programs with traditional classroom training on sanitation, allergen controls, GMPs, personal hygiene, and HACCP. With the limitations on training hours, these traditional topics have allowed companies to comply with standard audit expectations. Unfortunately, the industry has not focused on measuring the effectiveness of their food safety training and most rely on lagging indicators like customer complaints, internal audit results, and product recalls to shed some light on their training effectiveness (Figures 13 and 14).

A growing number of progressive companies are leveraging leading indicators like employee behaviors to ensure that their employees are not only retaining what they learned in the classroom, but also demonstrating correct behaviors and habits on the plant floor. Comprehensive verification of employee behaviors through plant floor observations, once thought to be too time consuming and impossible to manage, is now available through technology (Figures 13 and 14).

Figure 13 **HOW THE VALUE OF TRAINING IS MEASURED**

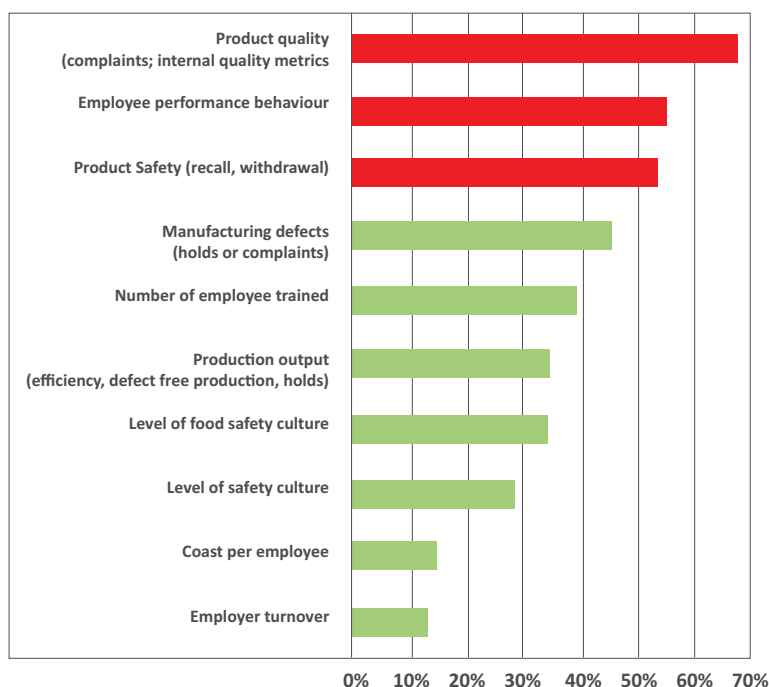
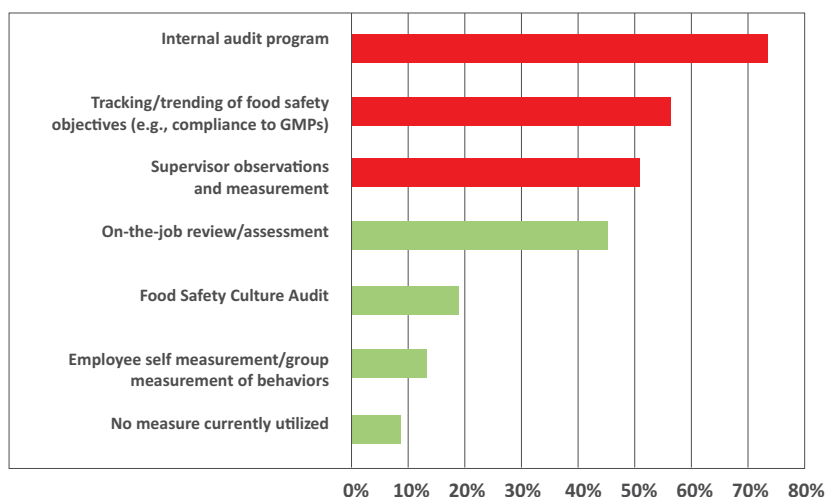


Figure 14 **HOW SUSTAINED POSITIVE FOOD SAFETY BEHAVIOR IS MEASURED**



Closing the "Commitment to Behavior Change" Gap

The gap between a company's commitment to food safety and the actual behaviors on the floor can be addressed with practical approaches and tools.

- Simplify training materials and shorten training time.
- Share responsibility for food safety by engaging supervisors and frontline workers.
- Use modern training mechanisms for more engaged learning.
- Reinforce classroom training with continuous "knowledge boosts."

Simplify Training Materials and Shorten Training Time

The survey reports that food safety training is too complex for most frontline workers. And with tight shift schedules, scheduling training is also a challenge (65% of respondents say that finding the time to train frontline workers is their biggest hurdle). Companies can simplify training materials so that employees are not "drinking from a fire hose" during training, and the content is appropriate to their education level and language skills. Specific actions could include:

- Assess language and education levels of the workforce by location and shift as there are often large variances.
- Conduct a learning needs assessment and gaps between existing training content complexity (e.g., language level, instruction length) and workforce's ability to comprehend.
- Adjust course content and design to align with the changes in today's workforce.
- Establish metrics for training and leverage employee behavior observations as a key leading indicator of training effectiveness.
- Involve key employees to help develop and create training tools.
- Recognize senior, tenured employees by providing them short refreshers to allow them to demonstrate their competencies.
- Use modern training mechanisms for more engaged learning.

The days of full-day instructor-led training with mostly one-way communication from the instructor to learner are over. New training mechanisms such as gamification, simulation, augmented reality, real-time peer benchmarking, and other learning mechanisms are creating engaging training experiences that better align with younger workers and their learning styles.

Gamification involves supplementing traditional instruction with individual or group games, which makes learning more fun and engaging. Augmented reality is the blending of “real-world” imagery from the plant floor with superimposed computer-generated animation to create a unique and compelling learning environment. Trainees can use augmented reality on a tablet to simulate hazardous situations and how to respond appropriately. For example, a large food retailer uses augmented reality on tablets to train new hires on how to handle floor spills and clean deli meat slicers.

Simulations enable trainees to learn about processes and production in a virtual environment so they become familiar before they are on the actual floor. For example, a large restaurant chain uses simulation games to help new associates learn to make menu items like burgers by using the right ingredients, with the right utensils, in the right sequence.

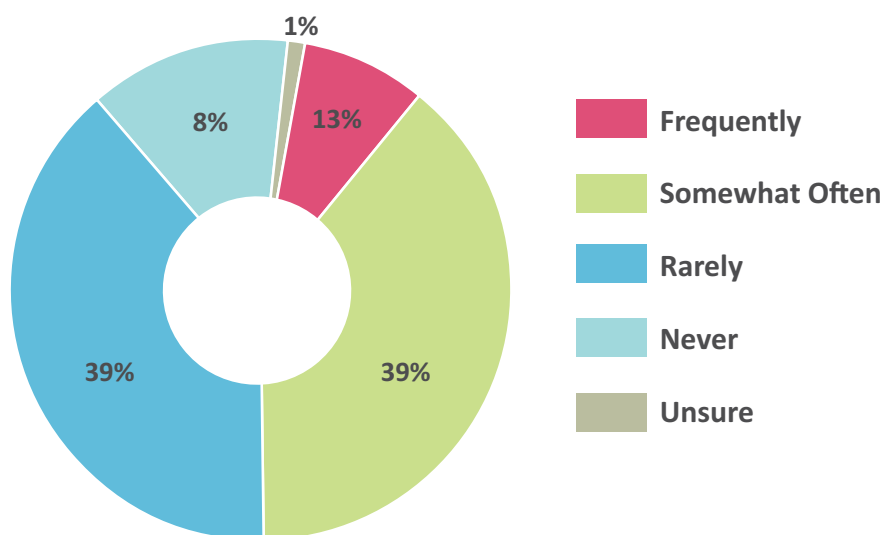
The same chain also provides real-time scoring on training quizzes so the employee knows how she ranks against her peers nationally and against the top 20% of quiz-takers. Real-time benchmarking motivates and ensures that employees know how they are performing and brings a spirit of friendly competition that creates engagement and knowledge retention.

Share Responsibility for Food Safety by Engaging Supervisors and Frontline Workers

Frontline supervisors are the unsung heroes of the production line. They may have the skills, knowledge, and authority to ensure proper food safety practices are followed on the floor. But as the survey shows, companies are concentrating food safety responsibility with management. Just 51% of companies leverage supervisors to observe and measure food safety behaviors. That responsibility could be shared or “trickled down” by providing frontline supervisors with tools to validate food safety practices right on the floor.

Supervisors must effectively become food safety coaches who drive consistent behaviors and thoroughly documented employee observations. “The Mind of the Food Worker” research revealed that only 52% of workers said they received a sufficient amount of coaching (frequent or somewhat often). The rest of the respondents did not feel that they received adequate coaching (Figure 15).

Figure 15 **FREQUENCY OF MANAGER / SUPERVISOR COACHING**

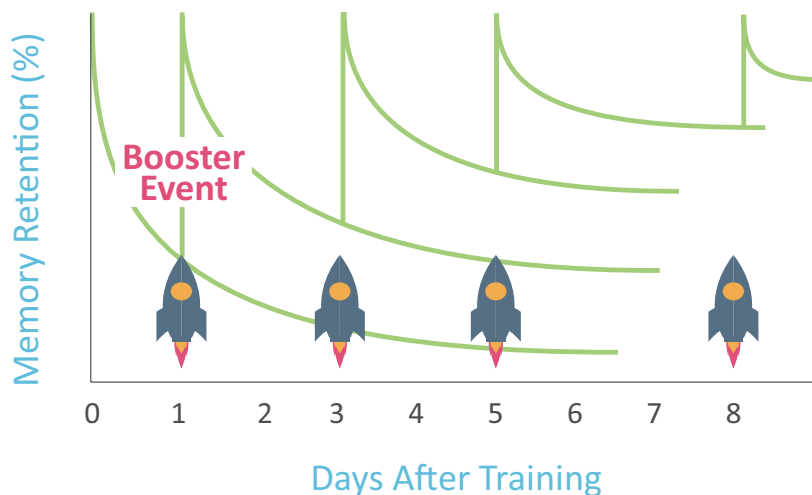


Mobile coaching applications can be used on the floor to enable supervisors not only to check worker compliance in real-time, but to record worker behavior to ensure that any necessary corrective actions are taken immediately. This reinforcement makes a more lasting impression on the worker and strengthens the working relationship between employee and supervisor. Millennial and Gen X workers also prefer this kind of coaching and learning because it helps them learn the “why,” not just “what.”

Reinforce Classroom Training with Continuous “Knowledge Boosts”

Training alone is not enough because 90% of training content is forgotten in a week. Companies can boost training with frequent, short-burst reinforcement that reverses the forgetting curve (Figure 16).

Figure 16 **BOOSTER TRAINING REINFORCEMENT**

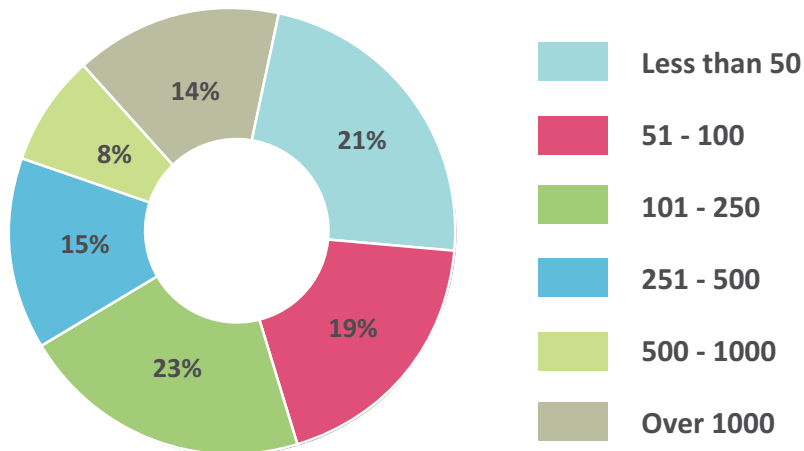


The reinforcement could be through shorter micro-courses that emphasize the key learning points. The three- to five-minute refresher courses can be provided through training kiosks in break rooms or on tablets. Companies are also using daily shift huddles to communicate important food safety messages. In order to ensure consistency and accuracy across shifts and plants, they are using “huddle guides.” The huddle guides have all of the relevant safety information on one side of a sheet and key talking points and discussion starters on the other side. Companies are increasingly using digital signs to communicate important safety messages and metrics in a more visually compelling and engaging way than paper bulletin boards.

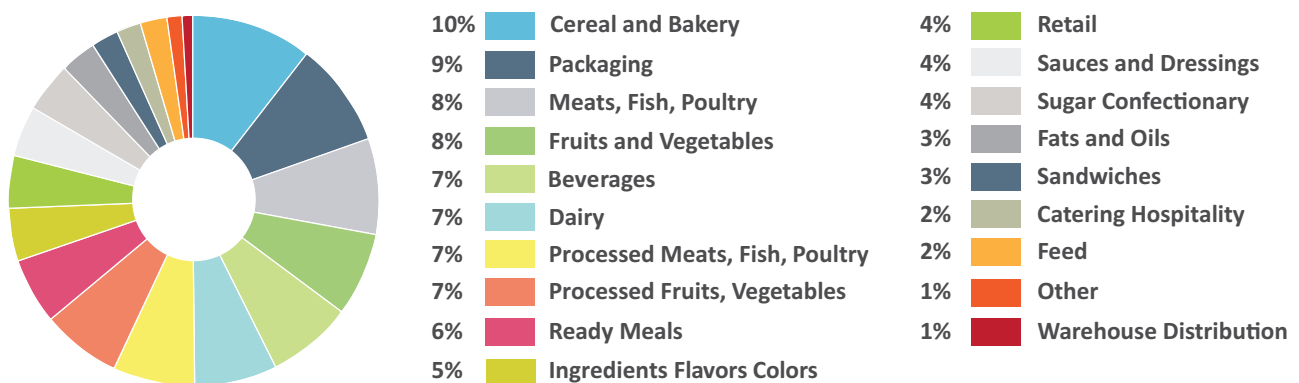
Research Methodology

The Global Food Safety Training Survey was jointly designed by the study sponsors including: Campden BRI, SQF Institute, BRC, Alchemy Systems, SGS, and TSI. The survey was administered online and sent to 25,000 sites worldwide. Survey respondents by size of company:

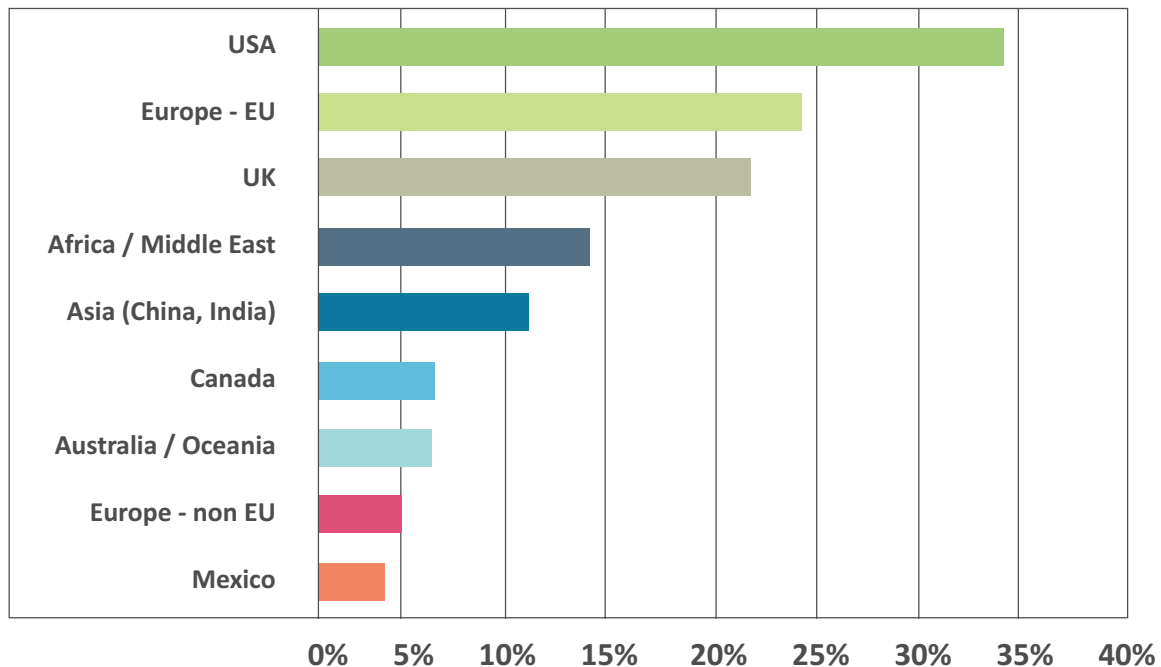
NUMBER OF FULL TIME EQUIVALENT STAFF



SURVEY RESPONDENT BY INDUSTRY SECTOR



SURVEY RESPONDENTS BY GEOGRAPHIC REGIONS



About Alchemy Systems

Alchemy is the global leader of innovative solutions that help food companies engage with their workforces to drive safety and productivity. Over two million food workers at 20,000 locations use Alchemy's learning, communications, and performance programs to safeguard food, reduce workplace injuries, and improve operations.

From farm to fork, Alchemy works with food growers, manufacturers, processors, packagers, distributors, restaurants, and retailers of all sizes to build positive safety and operations cultures.

Footnotes:

- 1) Shah, R. (2015, August 30). "The Mind of the Food Worker: Behaviors and Perceptions that Impact Safety and Operations." Retrieved from: <http://www.alchemysystems.com/mindofthefoodworker/>
- 2) Kohn, A. (2013, March 13). "Brain Science: The Forgetting Curve – the Dirty Secret of Corporate Training." Retrieved June 1, 2016, from *Learning Solutions Magazine* website <http://www.learningsolutionsmag.com/articles/1379/brain-science-the-forgetting-curve-the-dirty-secret-of-corporate-training>