



BUL 1130

Can Chatbots Develop Food-Safety Programs?

Janna Verburg-Hamlett

Extension Specialist, University of Idaho
Extension, Twin Falls Research and
Extension Center

Contents

- 1 Introduction
- 2 Scenarios
- 2 Supplier Approval Questionnaire
- 5 Integrated Pest Management (IPM) Program
- 9 Internal Audit Policy
- 12 Summary
- 12 Further Reading

Introduction

CHATBOTS AND ARTIFICIAL INTELLIGENCE (AI) tools are rapidly becoming mainstream, with users across a wide range of industries and backgrounds adopting them for diverse applications. In simple terms, a **chatbot** is a computer program designed to simulate human conversation, offering quick and convenient information on a broad array of topics. These tools can be used to retrieve factual information, provide entertainment, and even offer basic social or professional advice (Adamopoulou and Moussiades 2020).

In the food industry, entrepreneurs are increasingly leveraging chatbots to support critical tasks such as writing food-safety plans, developing prerequisite programs, drafting Standard Operating Procedures (SOPs), and fulfilling various requirements to meet customer and regulatory standards. Although there are several types of chatbots and their capabilities continue to improve as more data is incorporated into their training, the responses they generate are not always accurate. Chatbots can be an excellent time-saving tool and useful for gathering background information, but they lack the nuanced understanding of food-industry practices and regulatory compliance.

In a previous bulletin (Verburg-Hamlett 2024), I explored the use of ChatGPT to develop components of a food-safety plan—specifically conducting an ingredient hazard analysis for raw milk, drafting a policy on Good Manufacturing Practices (GMPs), and creating a Sanitation Standard Operating Procedure (SSOP) for cleaning a Hobart mixer. I used a grading rubric to evaluate the quality and accuracy of ChatGPT's responses. Some of the results were promising, but others fell significantly short. This bulletin continues that exploration. Instead of focusing on



University of Idaho
Extension

a food-safety plan, I assess ChatGPT's performance in generating documents commonly used as part of prerequisite programs within a food-safety management system. For this publication, I used ChatGPT powered by GPT-4o, which was introduced in May 2024, and the same evaluation criteria from the previous bulletin, as outlined in Table 1.

Table 1. Grading criteria.

Points	Category	Explanation
1.0	Correct	The information is correct, accurate, and currently aligns with industry and regulatory standards.
0.5	Potentially Misleading	The information is somewhat accurate, but provides incomplete data or conclusions or indicates some degree of misunderstanding.
0.0	Incorrect	The information is inaccurate and does not align with current industry or regulatory standards.

Scenarios

Scenario #1: Supply Chain Checklist

Approved supplier or supply chain programs are critical components of a food processor's food-safety management system. Ingredients, processing aids, and packaging materials all pose significant food-safety risks. In many documented cases, food-product recalls occur not due to issues originating within the processor's facility, but because an ingredient was adulterated, misbranded, or otherwise noncompliant and the processor was not able to mitigate the violation. Consequently, it entered the food chain and resulted in a recall for that processor. To prevent scenarios like this, food processors must exercise great care in selecting and approving their suppliers. A key first step is to evaluate potential suppliers using a detailed questionnaire, one that gathers essential information about a supplier's products, food-safety programs, and relevant policies to ensure they meet the processor's safety and quality requirements.

Prompt: Please create a supplier approval questionnaire for a food processor to send to a potential supplier of an ingredient or processing aid. Focus on food safety and quality systems.

Response:

Here is a **Supplier Approval Questionnaire** tailored for a **food processor** to send to a **potential supplier** of an **ingredient or processing aid**, with a strong focus on **food safety and quality systems**.

Supplier Approval Questionnaire

For Ingredient or Processing Aid Suppliers
Confidential Document

Section A: General Information

1. Company Name:
2. Business Address:
3. Primary Contact Person (Name, Title, Email, Phone):
4. Alternate Contact Person:
5. Type of Business (e.g., manufacturer, distributor, importer):
6. Years in Operation:
7. Number of Employees:
8. Are you the manufacturer of the product(s) supplied?
 - Yes
 - No (If no, provide manufacturer details)

Section B: Product Information

1. List of ingredients or processing aids supplied:
2. Are full product specifications available for each item?

- Yes
 - No
3. Do you provide a Certificate of Analysis (COA) with each shipment?
- Yes
 - No
4. Shelf life of product(s):
5. Recommended storage conditions:
6. Are allergen controls in place?
- Yes
 - No
 - If yes, specify how allergens are controlled:

Section C: Food Safety Management

1. Do you have a certified food safety management system? (e.g., GFSI benchmarked scheme such as BRCGS, SQF, FSSC 22000):
- Yes (Please attach valid certificate)
 - No
2. Is there a written HACCP plan for the product(s)?
- Yes
 - No
3. Who is responsible for food safety in your company (name and title)?
4. Are you subject to regulatory inspections (e.g., FDA, USDA, EU authorities)?
- Yes
 - No
 - If yes, date of last inspection and outcome:

Section D: Quality Assurance

1. Do you have a documented Quality Management System (QMS)?
- Yes
 - No
2. Is there a process for handling customer complaints and product non-conformances?
- Yes
 - No
3. Do you perform regular internal audits?
- Yes
 - No
4. Do you conduct supplier audits of your own ingredient sources?
- Yes
 - No
5. Are finished product tests (e.g., microbiological, chemical) conducted?
- Yes
 - No
 - If yes, please describe testing protocols:

Section E: Traceability & Recall

1. Do you have a documented traceability system in place?
- Yes
 - No
 - Can it trace from raw material to finished goods? Yes No
2. How quickly can a full traceability report be generated?
- <2 hours 2–4 hours >4 hours
3. Is a mock recall performed at least annually?
- Yes
 - No

- Date of last mock recall and result:

Section F: Product Defense & Fraud

1. Do you have a documented Food Defense Plan (TACCP)?
 - Yes
 - No
2. Do you have a documented Food Fraud Prevention Plan (VACCP)?
 - Yes
 - No

Section G: Declarations & Documentation

- Please attach the following (as applicable):
- Product specification sheets
- Certificate of Analysis template/sample
- Third-party audit certificate (GFSI or equivalent)
- HACCP plan summary
- Copy of food safety/quality policies
- Allergen control plan
- Recall procedure
- Any relevant SDS (Safety Data Sheets)

Declaration

I hereby confirm that the information provided in this questionnaire is accurate and complete to the best of my knowledge.

Name:

Title:

Date:

Signature:

Analysis

Overall, the questionnaire is very appropriate but let's discuss each section.

Section A: General Information— Score: 1.0

This section is largely complete and appropriate. However, it is recommended to include after-hours emergency contact information to ensure prompt communication in the event of a food-safety or -quality issue.

Section B: Product Information— Score: 0.75

The section adequately addresses product specifications, Certificates of Analysis (COAs), and shelf-life details. However, it lacks sufficient detail regarding allergens. It is essential that processors fully understand the allergen profile of both a product and the manufacturing facility. Most supplier questionnaires include the Big 9 allergens (as recognized in the United States) and, if international distribution is involved, they should account for allergen and sensitizing agent declarations relevant to the target countries. The form should request indication of whether or not allergens are present in the product and whether or not a facility processes the product on shared lines or stores it in the same facility.

Section C: Food-Safety Management— Score: 0.75

This section is mostly accurate but would benefit from a broader approach. The question regarding certified food-safety management systems only lists certain GFSI-recognized (Global Food Safety Initiative) Certified Program Owners (CPOs). Depending on the risk level associated with an ingredient, some processors may accept other third-party audits in lieu of GFSI certification. Therefore, the questionnaire should be revised to include alternative accepted audit schemes. Additionally, the question referencing HACCP (Hazard Analysis and Critical Control Point) should be updated to reflect current regulatory standards. Under the Food Safety Modernization Act (FSMA), specifically the Preventive Controls for Human or Animal Food rule, a traditional HACCP plan alone may not be

sufficient. The questionnaire should instead ask whether or not a supplier has a food-safety plan compliant with the applicable regulatory authority. The remaining questions in this section are relevant and appropriate.

Section D: Quality Assurance—Score: 0.75

This section includes key quality-assurance elements that would be enhanced by including more specific inquiries about the structure and content of the supplier’s Quality Management System (QMS). It is recommended to incorporate targeted questions that address the sanitation program, GMPs, employee hygiene protocols, and employee training programs. The other questions included are suitable and relevant.

Section E: Traceability and Recall—Score: 0.75

Although this section is generally appropriate, it omits a critical detail: an explanation of a supplier’s lot coding system. Understanding this system is essential for effective traceability and recall procedures. A request for a lot code example or explanation should be included.

Section F: Product Defense and Food Fraud—Score: 1.0

This section is complete and appropriately addresses product defense and food-fraud prevention strategies.

Section G: Declarations and Documentation—Score: 0.75

This section covers important declarations but could be improved by clarifying expectations around document age. It is advisable to specify that submitted documentation be no more than two years old to ensure relevance and accuracy. Additionally, processors may require supplemental documentation, such as a Certificate of Liability Insurance, a letter of guarantee, or a continuing product guarantee—though the last may also be incorporated within the product specification document. Finally, this section should include document control elements and provide space for reviewer initials, acceptance status, and the date of evaluation.

Overall Score: 5.75 points out of 7 possible points = 82.1% accuracy

Scenario 2: Pest-Control Management

An integrated pest management (IPM) program is a fundamental requirement for compliance with third-party audits, customer expectations, and regulatory standards. Pest-related issues are among the most frequently cited nonconformances in food-processing facilities. In fact, in 2022, deficiencies in pest-control management were cited 171 times, ranking as the second most common violations, surpassed only by noncompliance with Foreign Supplier Verification Program requirements by the US Food and Drug Administration during GMP inspections (Registrar Corp 2023). Effective pest control is essential for maintaining food safety. If not properly managed, pest activity can lead to product contamination and pose serious health risks to consumers. As such, a robust, well-documented IPM program is not only the best practice, but a critical safeguard to ensure the production of safe, high-quality food.

Prompt: Create an integrated pest management program for a food processor that meets customer and USA regulatory requirements.

Response: Here’s a comprehensive **Integrated Pest Management (IPM) Program** for a **food processor** that aligns with **US regulatory requirements** (such as FDA and USDA), **industry best practices**, and **typical customer audit standards** (like those under GFSI schemes—e.g., SQF, BRCGS).

Integrated Pest Management (IPM) Program

For Food Processing Facilities

[Company Name]

1. Purpose

The purpose of this Integrated Pest Management (IPM) Program is to prevent, monitor, and eliminate pests in a manner that is safe, sustainable, and compliant with US regulatory standards (FDA 21 CFR Part 117 – cGMPs) and customer requirements. This program ensures product safety and integrity in all food processing operations.

2. Scope

This program applies to all areas of the food processing facility, including production areas, warehouses, raw material storage, exterior grounds, waste handling zones, and employee welfare areas.

3. Responsibilities

Role	Responsibility
Facility Manager	Ensures program implementation and resourcing
Quality Assurance (QA) Manager	Maintains records, conducts inspections, oversees corrective actions
Sanitation Manager	Coordinates cleaning to minimize pest harborage
Third-Party Pest Control Provider	Performs regular service and reporting, recommends improvements
All Employees	Report signs of pest activity immediately to supervisors or QA

4. Approved Pest Control Provider

- Company Name:
- License #:
- Service Frequency: Weekly/Biweekly / Monthly
- Scope of Service: Rodents, insects, birds, occasional invaders

- A signed contract must be maintained with detailed scope and response protocol.

5. Program Elements

A. Prevention

- **Facility Design & Maintenance**
 - Pest-proof construction (sealed gaps, dock doors with tight seals, mesh on vents)
 - Doors remain closed when not in use
 - Air curtains or strip curtains used at high-traffic exterior entrances
- **Sanitation & Waste Management**
 - Daily cleaning schedules in place
 - Garbage bins with tight-fitting lids
 - Waste removed frequently and kept away from the building exterior
- **Inventory Management**
 - FIFO policy reduces infestation risk
 - Regular inspection of incoming goods for pests or damage

B. Monitoring

- **Rodent Monitoring**
 - Bait stations placed along interior and exterior perimeters
 - Nontoxic monitoring blocks used inside production areas
 - Tamper-resistant and numbered stations; mapped and logged
- **Insect Monitoring**
 - Glue boards and insect light traps in strategic, nonproduct zones
 - Monitored weekly by pest control provider and QA team
- **Bird and Other Pest Monitoring**

- Visual inspection of facility roofs, loading areas, and open bays
- Use of bird deterrents as needed (e.g., spikes, netting)

C. Control Measures

- **Chemical Controls**
 - Only EPA-approved pesticides for food facilities
 - No chemical applications while production is active
 - MSDS/SDS and labels must be kept on-site
 - Logs maintained for all pesticide applications (date, location, pest, product, technician)
- **Non-Chemical Controls**
 - Mechanical traps, vacuuming, habitat modification, exclusion devices
 - Insect electrocutors placed away from product and food contact areas

D. Documentation & Records

All records must be retained for at least **2 years** and include

- Pest sighting log (for employee use)
- Pest control service reports
- Corrective action records
- Facility pest control map (bait stations, traps, ILTs, etc.)
- Pesticide usage logs
- Pest control provider's license and insurance
- Annual trend analysis

6. Corrective Actions

- Any pest activity triggers an investigation and root cause analysis

- Corrective actions may include facility repair, sanitation improvements, pest proofing, or increased monitoring
- Repeat activity requires escalation and review with the pest control provider

7. Internal Verification & Program Review

- Internal pest program audits at least **quarterly**
- Annual review of pest activity trends
- Reassessment of pest management strategy and map as needed
- Annual meeting with pest control provider for performance evaluation

8. Training

- All employees receive annual basic pest awareness training
- Supervisory and QA personnel receive in-depth training on monitoring and escalation procedures
- Training records are maintained

9. Regulatory and Audit Compliance

- Complies with
 - **FDA 21 CFR Part 117.35(c):** Maintenance of plant grounds and pest exclusion
 - **FSMA Preventive Controls for Human Food**
 - **USDA Sanitation Standards**
 - GFSI requirements (SQF, BRCGS, FSSC 22000)
- Facility must be audit-ready at all times

Analysis

Overall Assessment

This document represents a solid foundation for a pest-control program policy. The following is a section-by-section evaluation with comments and recommendations for improvement.

Purpose and Scope—Score: 1.0

No concerns identified. This section is clear and complete. No changes are recommended.

Responsibilities—Score: 0.75

This section requires expansion. It is recommended to include roles for the Maintenance Team and Maintenance Manager, since they are critical in maintaining a facility's interior and exterior conditions. Additionally, a third-party pest-control provider should be assigned responsibility for maintaining and updating records to ensure compliance with regulatory requirements and audit standards.

Approved Pest Control Provider—Score: 0.50

The inclusion of specific provider identification details within the policy document is not advised. Such information should instead be maintained separately in pest-control documentation—either in a physical binder or in an online customer management system. Including this level of detail in the policy requires unnecessary revisions with each change in provider. However, retaining a signed service contract is an appropriate and necessary inclusion.

Program Elements—Score: 0.50

The prevention strategies are well outlined. Additional best practices should be mentioned, such as maintaining positive air pressure relative to the exterior, avoiding exterior lighting directly above doors, ensuring self-closing doors, conducting visual inspections for nests and harborage areas, and enforcing GMP policies such as prohibiting food in lockers.

There are critical inaccuracies in the monitoring section. Interior monitoring must be limited to live trapping—bait stations and monitoring blocks are strictly for exterior use. Placement guidelines

generally include locations on either side of exterior doors and at twenty-five-foot intervals along exterior walls. Monitoring frequency should be determined by risk level and seasonal trends (e.g., reduced frequency during winter in colder regions). These expectations should be addressed in the contract with the pest-control provider and informed by historical data.

This control section is generally strong, though one point requires clarification. The policy incorrectly suggests chemical applications are not allowed during processing, whereas residual sprays are often applied to doorways and walls. Food processors are frequently 24-7 operations so it is essential that the pest-control officer is knowledgeable. Include language like the following to manage the risk: "All pesticide applications will be conducted in a manner that prevents contamination or adulteration of equipment, product, or packaging and does not pose a risk to employee or visitor health." Additionally, the policy must include a requirement to document the lot number of any pesticide used.

Corrective Actions and Internal Verification and Program Review—Score: 3.0/3.0

These sections are comprehensive and require no changes at this time.

Training—Score: 1.0

Expand this section to include initial pest awareness training for all new hires. All employees should be trained to recognize signs of pest activity and instructed to report any observations immediately to management.

Regulatory and Audit Compliance—Score: 1.0

This section is appropriate and aligns with regulatory expectations. No changes are needed.

For more information on an IPM program see Grassman 2021; Kazarian 2022; and National Pest Management Association n.d.

Overall Score: 7.75 points out of 9 possible points = 86.1% accuracy

Scenario 3: Internal Audit Program

A well-developed internal audit program is a critical component of any effective safety- and quality-management system. Internal audits serve multiple essential functions: they help identify issues before they escalate, prevent the release of nonconforming materials to customers, ensure that established policies and procedures are being followed, detect potential fraud or unauthorized practices, and highlight opportunities to improve operational efficiency. Without regular internal audits, it is impossible to verify whether a system is functioning as intended. Because of their importance, internal audits are often mandated by regulatory bodies, customers, and third-party certification programs. These audits must be tailored to the specific needs of each facility, considering unique operational requirements, customer expectations, and third-party standards. As such, a generic internal audit checklist is rarely sufficient for food facilities. Consequently, we can't expect a chatbot to develop the checklist; however, we can leverage tools like a chatbot to assist in developing a foundational internal audit policy. This policy can serve as the framework from which other critical elements—such as audit checklists, team training requirements, and audit-scheduling protocols—can be built and customized to suit specific operations.

Prompt: Create an internal audit policy for a food processing facility that complies with US regulatory and standard industry best practices.

Response: Certainly! Below is a **comprehensive Internal Audit Policy** tailored for a food processing facility. This policy aligns with **US regulatory requirements** (e.g., FDA under FSMA), **third-party audit schemes** (such as GFSI-recognized schemes like SQF, BRCGS, FSSC 22000), and **industry best practices**.

Internal Audit Policy

Effective Date: [Insert Date]

Reviewed/Revised: [Insert Date]

Approved By: [Insert Name/Title]

Applies To: All departments within the food processing facility

1. Purpose

The purpose of this policy is to establish a structured and documented internal audit program to verify that the food safety, quality, and regulatory compliance systems are effectively implemented and maintained. The internal audit program is designed to identify nonconformities, drive continuous improvement, and ensure compliance with

- US regulatory requirements (e.g., FSMA, FDA 21 CFR 117 for human food)
 - Applicable third-party food safety and quality standards
 - Customer-specific requirements
 - Internal policies and procedures
-

2. Scope

This policy applies to all operational areas including but not limited to

- Food safety and HACCP/Preventive Controls programs
 - Sanitation and hygiene practices
 - Prerequisite programs (e.g., allergen control, pest control)
 - Traceability and recall systems
 - Supplier and ingredient management
 - Employee training and documentation
 - Quality assurance systems
 - Facility and equipment maintenance
-

3. Definitions

- **Internal Audit:** A systematic, independent, and documented process for obtaining

objective evidence and evaluating it against audit criteria.

- **Non-Conformance:** A failure to meet a requirement of a regulation, internal procedure, or food safety standard.
- **Corrective Action:** A documented procedure to eliminate the cause of a detected non-conformance.

4. Responsibilities

- **Food Safety Team Leader (or QA Manager):**
 - Oversees the internal audit program
 - Ensures audits are scheduled and completed
 - Trains and qualifies internal auditors
 - Reviews audit findings and ensures timely corrective actions
- **Internal Auditors:**
 - Conduct audits objectively and confidentially
 - Report findings in an unbiased and constructive manner
- **Department Managers:**
 - Participate in audits
 - Ensure corrective and preventive actions are implemented within defined time frames
- **Senior Management:**
 - Supports the audit program
 - Reviews audit summaries during management review meetings

5. Audit Frequency

- Each key area of the food safety and quality system shall be audited **at least once per year**.
- High-risk or critical control areas (e.g.,

allergen control, sanitation, CCPs) may be audited **more frequently** (e.g., quarterly).

- Additional audits may be triggered by
 - Product recalls or complaints
 - Major nonconformances during external audits
 - Changes in products, processes, or equipment

6. Audit Planning and Execution

- An **annual internal audit schedule** shall be developed and approved by the Food Safety Team Leader.
- Audits shall be conducted using a **standardized checklist** based on applicable standards, regulatory requirements, and internal procedures.
- **Auditors must not audit their own work** to ensure objectivity.
- Audit findings must be documented clearly, identifying nonconformances, opportunities for improvement, and positive observations.

7. Reporting and Documentation

- Audit reports must be completed and submitted to the Food Safety Team Leader within **5 business days** of the audit.
- All reports must be maintained for a minimum of **2 years** or longer if required by regulation or customer requirements.
- A summary of audit results will be reviewed during **management review meetings**.

8. Corrective and Preventive Actions

- Nonconformances identified during audits must be addressed using the **Corrective Action Request (CAR)** process.

- Responsible managers must submit a **root cause analysis and action plan** within **10 business days**.
- Effectiveness of corrective actions shall be verified during **follow-up audits or reviews**.

9. Training and Qualification

- Internal auditors shall receive **formal training** in audit principles, food safety regulations, and applicable standards.
- Auditor competency shall be evaluated annually.

10. Continuous Improvement

- Audit results shall be analyzed to identify trends, recurring issues, and areas for systemic improvement.
- The internal audit process itself shall be reviewed at least annually for effectiveness and updated as necessary.

11. Compliance and References

This policy is designed to comply with

- **21 CFR Part 117 (Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food)**
- **21 CFR Part 507** for animal food (if applicable)
- **FSMA Preventive Controls Rule**
- GFSI-benchmarked standards (e.g., SQF, BRCGS, FSSC 22000)
- Customer-specific audit criteria

Document Control:

Policy No.: QA-INTAUD-001

Version: 1.0

Next Review Date: [Insert Date]

Analysis

Overall, this is a strong starting point. Only a few areas require refinement to enhance clarity and ensure alignment with regulatory and industry expectations.

Purpose—Score 1.0/1.0 and Scope—Score: 1.0/1.0

No issues noted. This section is clear and complete.

Definitions—Score: 1.0

The definition of *internal audit* should include language referencing first-party audits or self-assessments to accurately reflect industry terminology.

Responsibilities—Score: 1.0

It is recommended to emphasize that all personnel should be aware of audit findings and actively participate in corrective actions. A strong food-safety culture relies on empowering every employee to contribute suggestions and drive continuous improvement.

Audit Frequency—Score: 0.75

The current wording suggests that only key areas are audited annually. This should be clarified to state that the entire food-safety and -quality management system must be audited at least once per year. Additionally, a bullet point should be added noting that housekeeping/GMP audits are typically conducted monthly.

Audit Planning and Execution—Score: 1.0

No concerns identified.

Reporting and Documentation—Score 1.0/1.0; Corrective and Preventive Actions—Score 1.0/1.0; Training and Qualification—Score 1.0/1.0; and Continuous Improvement—Score: 1.0/1.0

The time frames provided for reporting and corrective actions are appropriate; however, time frames should align with other internal policies and procedures.

Compliance and References—Score: 1.0

In addition to the current references include USDA HACCP 9 CFR 417.

Overall Score: 10.75 points out of 10 possible points
= 97.7% accuracy

Summary

Chatbots can be valuable tools for food entrepreneurs who develop food-safety and -quality programs (Table 2). They offer an efficient way to generate initial drafts of policies and procedures, helping to document a substantial portion of the required programs. However, their outputs may contain inaccuracies or omit critical nuances necessary for regulatory compliance and alignment with industry best practices. Therefore, carefully review all chatbot-generated content by having it validated by a knowledgeable and trained professional before implementation. Furthermore, because chatbots are constantly being modified and various AI tools are evolving, the output may one day be different depending on the day or session.

Table 2. Score summary. Supply Chain Checklist, Integrated Pest Management Policy, Internal Audit Policy.

Prompt	Score
Supply Chain Checklist	82.1%
Integrated Pest Management Policy	86.1%
Internal Audit Program Policy	97.7%

Further Reading

- Adamopoulou, E., and L. Moussiades. 2020. "An Overview of Chatbot Technology." *Artificial Intelligence Applications and Innovations* 584: 373–83. doi: 10.1007/978-3-030-49186-4_31.
- Grassmann, D. 2021. "Integrated Pest Management in Food Manufacturing Facilities." *Food Safety Magazine*. <https://www.food-safety.com/articles/6996-integrated-pest-management-in-food-manufacturing-facilities>.
- Kazarian, K. 2022. "Food Safety and Pest Management." *Food Engineering*. <https://www.foodengineeringmag.com/articles/99943-food-safety-and-pest-management>.
- National Pest Management Association. 2016. *2016 Pest Management Standards for Food Processing and Handling Facilities*. Fairfax, VA: NPMA. <https://npmawcdn-afabcafzhkfbcs.z02.azurefd.net/media/vyvnyv4k/2016-pest-management-standards-for-food-processing-electronic.pdf>.
- Registrar Corp. 2023. "Top 5 FDA Inspection Violations in 2022." Registrar Corp. <https://www.registrarcorp.com/blog/food-beverage/fsma/top-5-fda-inspection-violations-in-2022/>.
- Verburg-Hamlett, J. 2024. *Does ChatGPT Get Food Safety?* (BUL 1079). Moscow, ID: University of Idaho Extension. <https://www.uidaho.edu/extension/publications/bul-1079>.

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Barbara Petty, Director of University of Idaho Extension, University of Idaho, Moscow, Idaho 83844. It is U of I policy to prohibit and eliminate discrimination on the basis of race, color, national origin, religion, sex, sexual orientation and gender identity/expression, age, disability, or status as a Vietnam-era veteran. This policy applies to all programs, services, and facilities, and includes, but is not limited to, applications, admissions, access to programs and services, and employment.

U of I is committed to providing reasonable accommodations to qualified individuals with disabilities upon request. To request this document in an alternate format, please contact CALS Extension Publishing at 208-885-7982 or calspubs@uidaho.edu.

