Roadmap to Produce Safety: A Conceptual Framework

Summary Report of the Produce Safety Dialogue

Reagan-Udall Foundation for the FDA

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Introduction

The role of fresh fruits and vegetables in a healthy diet is undisputed. However, outbreaks of food-borne illness associated with fresh produce commodities have presented a conundrum that has lasting impacts on consumer confidence and decision making. Despite these concerns, the health benefits of fruit and vegetable consumption far outweigh the risks, especially when factoring in the number of produce servings consumed in the United States each day. Ensuring the safety of fresh fruits and vegetables presents complex challenges for industry members, researchers, and regulators primarily due to the lack of a "kill step", the difficulty in controlling environmental hazards in an outdoor (and even indoor) environment, and the need for multiple controls throughout the supply chain, among other factors.

"Produce" is a fragmented industry, with many members only recently subject to federal produce-specific food safety regulations. Prior to the Food Safety Modernization Act Produce Safety Rule, market requirements (often imposed by produce buyers) drove the implementation of food safety practices and market forces continue to have significant impact today. These siloed approaches, however, have compelled produce growers and packers to expend significant resources (for example, on multiple third-party audits) for arguably limited return on reducing food safety hazards and risks.

A number of task forces, workgroups, meetings, and other efforts aimed at improving the safety of fresh produce have occurred over the past 20 years. Some have included a wide range of stakeholders (e.g., the 2019 Romaine Task Force), whereas others have focused efforts on the role of supply chain members (e.g., Leafy Greens Marketing Agreements of growers/ shippers/handlers; Leafy Green Safety Coalition of buyers).

The Produce Safety Dialogue grew from the efforts of several organizations, including members of the Fresh Produce Coalition (https://go.wga.com/fresh-produce-coalition), who recognized that, despite many ongoing activities, some fundamental, deeply rooted obstacles to produce safety needed to be addressed. **While there have been numerous efforts to convene and align produce safety improvements in the last decade, few have resulted in practical and actionable solutions with widespread applicability and measurable industry-wide impacts.**

To conceptualize a long-standing working model to address this need, the Reagan-Udall Foundation for the FDA, at the FDA's request, engaged with produce system stakeholders including those from agricultural communities, consumer groups, industry, academia, and government (**Figure 1**). These discussions aimed to develop a shared understanding of the challenges and opportunities in fresh produce safety, while supporting efforts to foster greater consumption and accessibility to safe, wholesome fruits and vegetables.

Figure 1. Produce Safety Dialogue Process

This effort is unprecedented not only because of the inclusiveness of stakeholder viewpoints and the long-term horizon scanning activities undertaken by each workgroup, but also because this community assembled, worked, and deliberated in a proactive fashion. Almost every previous produce safety initiative was done in response to an outbreak or other acute issue. Discussing issues in a "time of peace" revealed the differences in priorities between different participants. In the absence of an outbreak and/or commodity to rally around, what surfaced was a fundamental lack of trust (between buyers and suppliers; between industry and government) and inclination to "plant their flag" and hold fast to a position rather than explore a collective solution. **It is only through continuing conversation, developing relationships, and identifying some small tangible 'wins' that the produce stakeholder community will align to tackle larger, systematic issues.** Many participants noted that the nature and tone of the conversation were impacted by recent changes within the federal government, including those that resulted in staffing and funding cuts or uncertainties around research funding, extension services, and state and local inspectional and outbreak response capacity. As federal support in produce safety appears to be diminishing, the need for collaborative public-private sector efforts increases.

Although the FDA provided the initial funding to accelerate the conversation, all stakeholders should contribute solutions, particularly considering the current emphasis on small and efficient government. The proposed roadmap is intended to aid a small, dedicated group of stakeholders (e.g., a self-identified steering committee) in evolving the conversation, building trust among various stakeholder groups, and tackling long term issues. This report captures these most recent conversations along with the historical context of industry progress. The recommendations within this document incorporate key elements that individual work groups and meeting attendees identified as critical priorities.

Section I: Roadmap to Produce Safety Success

Roadmap: Step 1. Getting Started

This document aspires to capture a roadmap for improving produce safety via a coordinated set of activities over a multi-year period. The content is the result of engaging a relatively large, diverse, and enthusiastic group of volunteers who worked over the course of several months to critically evaluate produce safety needs and opportunities. Their work not only yielded this roadmap, but it also demonstrates strong public sector and private sector interest in improving produce safety.

Previous short-term efforts did not include the development of a structure to support sustained collaborations. This effort (the Produce Safety Dialogue), however, exposed some deeply rooted issues (beginning with the need to build trust and recalibrate the power and economic differentials in the system) that will take years to address; thus, options for funding and governing a long-term collaborative are proposed.

Said another way, a roadmap is not useful without a vehicle to travel down the road. The first stop on the roadmap is choosing the vehicle (i.e., choosing what sort of collaborative structure—referred to as 'enduring collaboration' or a public-private partnership—should be established to pursue the steps in the roadmap). The work group that developed options for an enduring collaboration recommends that a subset of volunteers representing the produce industry (comprised of the whole supply chain), their trade associations, and regulators, help kick off the enduring collaboration, which is recommended to be structured as an alliance. These volunteers can develop a request for proposals and select a "home" and/or formally identify a facilitator to maintain momentum. This is further described in **Section II: Enduring Collaborations to Support Progress**.

If an alliance or other entity is established, this report can serve as the basis for the work that would be coordinated by that entity: it is a path on which the vehicle can travel. The intent is to better coordinate existing and more narrowly focused activities and to maximize efficiency and build networks needed to effect long term change.

Overall, many individuals and organizations are working diligently to improve food safety, but change is needed because:

- The nation's food system fragmented, uncoordinated, under-resourced and not aligned around a common strategy for making produce safer.
- Doing more of the same and even doing it better will not suffice to reduce foodborne illness attributed to fresh produce and foster consumer confidence.
- The production, harvest, and handling of fresh produce has become increasingly complex with extreme weather, advancing technologies, evolving consumer expectations, and globalization of trade.

- Current food safety, conservation, and other regulatory policies do not always incentivize the adoption of new approaches to growing, harvesting, packing, shipping, and storing of fresh produce.

Priorities for an Enduring Collaboration

Once an enduring collaboration, such as an alliance, is established, it can serve to coordinate and facilitate many existing efforts. As part of the Produce Safety Dialogue process, several priorities were identified by each of the eight work groups. At the meeting in April 2025, participants, both in-person and online, reviewed those priorities, added any omitted concepts, and ranked their top five by placing "votes" next to each (**Figure 2**). The resulting five priorities can be used to guide the activities of an enduring collaboration. Further discussion revealed interest in prioritizing the most impactful areas for produce safety and identifying those activities that may be less impactful. There was also an interest in piloting a collaboration around a specific issue such as agricultural water to explore how a collaboration could function on a more targeted issue. Finally, there was recognition that advocating to maintain (and preferentially grow) the current produce safety infrastructure (e.g., public health systems, ability to respond to outbreaks, funding for research and extension) would require diverse stakeholders to align around messaging.

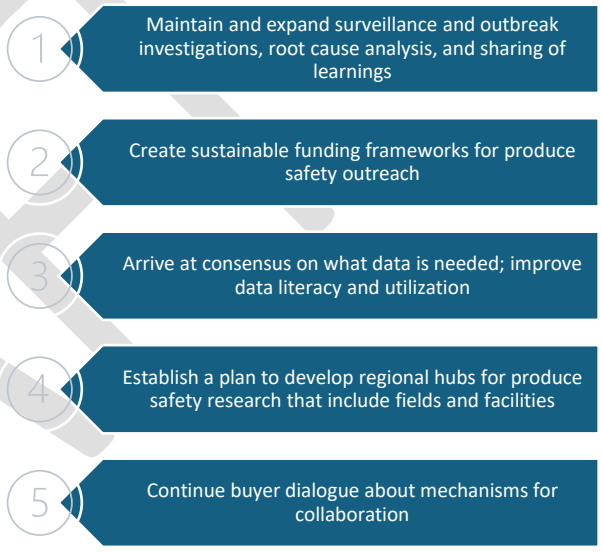


Figure 2. Top five produce safety priorities selected by meeting participants.

Maintaining What is Working Well

While this effort focused mainly on what is needed to *improve* produce safety, it is important to recognize the tremendous effort that goes into maintaining a safe supply of fresh produce today. Stakeholders, via a questionnaire distributed in the fall of 2024, identified many efforts and activities that serve to advance produce safety. The following were the most commonly mentioned efforts, programs, and resources that benefit produce safety and should presumably continue or be enhanced and further supported:

- Education and Outreach (including PSA trainings, Extension) (50 Mentions)
- On-Farm Readiness Reviews (OFRRs) (15 Mentions)
- State-led inspection programs (20 Mentions)
- Collaboration across state, federal, and industry (20 Mentions)
- Research support (especially CPS-funded research projects) (15 Mentions)
- Improved awareness and communication (15 Mentions)
- Flexibility in regulations (educate while regulate) (10 Mentions)

- Traceability initiatives and GAP audits (10 Mentions)
- Improved sanitation and environmental monitoring focus (5 Mentions)
- Remote training (webinars, podcasts, etc.) (5 Mentions)

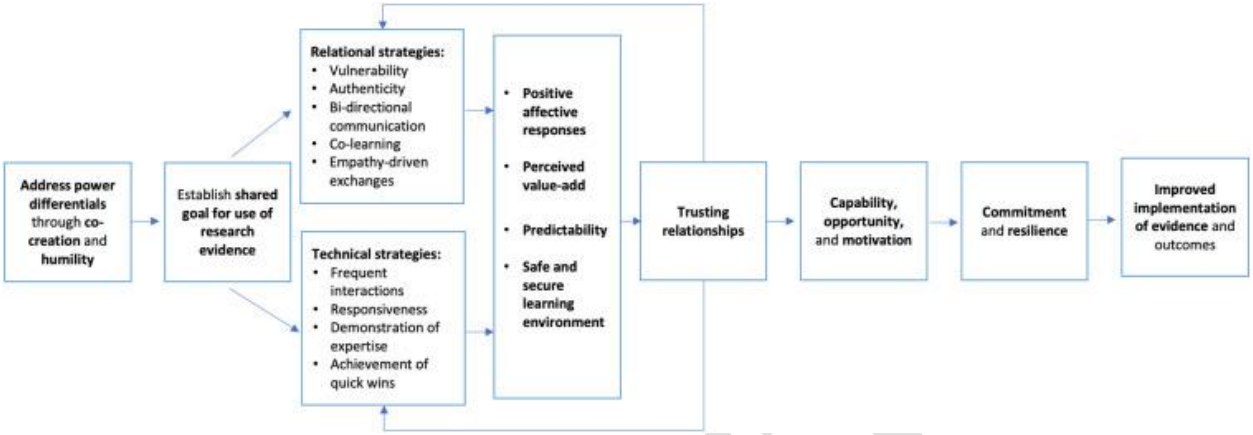
Collaboration Built on Trust

In addition to the specific priorities for new activity and maintaining some existing practices, the trust deficit within the fresh produce ecosystem must be addressed. Through feedback from work group members and discussion amongst the April 2025 meeting participants, it is clear that trust is lacking. Trust and transparency are not just buzzwords – they are essential components of resilience and long-term success. Trust and transparency rarely emerge organically; they must be built through sustained efforts that span all aspects and responsible parties within the food system. Trust is essential in building collaborative relationships to address complex challenges in the safety of fresh fruits and vegetables. When growers, regulators, scientists, and industry leaders trust one another, they are more likely to share critical information, align on best practices, and support unified produce safety standards. This collective confidence enables faster problem-solving, greater transparency, and more effective implementation of food safety measures, ultimately protecting public health and strengthening the entire produce supply chain. The collaboration should also identify additional stakeholders to engage, particularly in building trust. These may be social scientists with expertise in public health, change management, and psychology and behavioral science. **An important step towards establishing a continuing collaboration in produce safety is to identify shared goals and concrete items that lead to collectively pursuing solution-oriented outcomes.**

Change theory suggests that taking a series of steps, utilizing both relational and trust building strategies (See **Figure 3**), can yield increased trust among implementation stakeholders, leading to positive and sustainable implementation outcomes (Metz et. Al., 2022). Envisioning what success looks like through the lens of each stakeholder – growers, processors, shippers, retailers, foodservice members, public health professionals, educators, and regulators – will likely yield disparate results but is a critical part of addressing existing power differentials. In fact, the Dialogue's April 2025 meeting suggests that different stakeholder groups have different definitions of success.

While there may be a perception that responsibility for produce safety lies more heavily on certain members within the food system, all stakeholders are part of a larger agricultural and economic ecosystem that makes it challenging for one player alone to find solutions and bear the costs for improvement. This underscores the importance of identifying a shared goal so that a variety of strategies can be employed to build trusting relationships which result in the intended public health outcomes.

Figure 3. Theoretical model for trusting relationships and implementation.



Pursuing systemic change in produce safety aims to address root causes through broad reforms such as overhauling regulatory frameworks or reshaping industry best practices. Systemic change can yield long-term, sustainable impacts. However, tackling such comprehensive problems requires significant time investment, extensive coordination, and consensus on issues endemic to the realities of growing, harvesting, and handling fresh produce.

In contrast, focusing on tangible, incremental steps like improving sanitation practices or enhancing agricultural water quality may offer quicker, more measurable progress and can build momentum for larger change. During the April 2025 meeting discussions, it was suggested that one topic (agricultural water) be selected as a 'proof of concept' to test the ways in which diverse stakeholders can reach consensus and ultimately develop a framework for approaches to tackle other produce safety challenges. There are benefits and downsides to a more focused approach; while it may provide a concrete "thing" to work on, a specific topic may not be inclusive of all stakeholders. While systemic change provides a visionary foundation, incremental action ensures continuous improvement; ideally, both approaches work in tandem to drive comprehensive and lasting positive public health outcomes.

A process-oriented approach to making meaningful change involves focusing on the underlying processes and systems that drive behavior and outcomes, rather than just addressing the symptoms of the problem. This approach emphasizes creating a collaborative environment, developing a shared vision, and making incremental changes that build toward a more sustainable transformation. A continuing collaboration in produce safety will need to identify and engage the right groups of stakeholders to advance each of the following proposed elements (See **Figure 4**) of the roadmap to fresh produce safety.

Figure 4. Steps toward developing a roadmap and enduring collaborations in produce safety.

Roadmap: Step 2. Defining Acceptable Risk and the Appropriate Level of Protection

Unless improving produce safety is quantitatively defined, there is no target to measure progress toward "better". Within the produce industry, there is a high level of risk aversion and at the same time an impractical aspiration to achieve "zero risk". Whether characterized as "whack a mole", "shiny object", or "competing priorities", there are numerous actions taken today in the name of produce safety without a clear definition of their relative value toward achieving a certain outcome. The outcome needs to be defined and continually refined as more is learned from research, root cause analysis, and historical trends.

Achieving this step may be extremely difficult. As one meeting participant stated, "We are stuck in risk assessment and need to move to risk management". Unfortunately, major gaps exist in risk literacy, and until these gaps are closed, achieving a more realistic view of risk tolerance is challenging. Balancing the philosophy that one illness or death related to a fresh produce outbreak is one too many against a numerical risk target that identifies an inevitability of potential adverse outcomes is uncomfortable. Consumer groups and the public health community must be engaged in this discussion, and consider data around consumer confidence and the health benefits of increased produce consumption (and thereby a resulting decrease in chronic diseases). The Policy and Economic Opportunities work group emphasized the importance of public health advocacy, specifically around establishing risk tolerance levels.

If risk tolerance tension can be navigated, this opens the conversation to explore different ways that the level of risk can be met. Science and data (and risk assessments based on quality data; See *Collaboration on Produce Safety Data* section below) can help compare options, but ultimately, agreement is needed on which efforts should be prioritized to achieve the target risk reduction.

As noted earlier in this report, some Dialogue participants advocated prioritizing agricultural water as a first topic to address. Utilizing agricultural water as an example throughout the report (solely for potential proof of concept), a continuing collaboration must decide whether the appropriate level of protection is:

- Defined as the overall public health outcome, which is inclusive of all steps and variables in the supply chain,
- Based on likelihood of crop contamination, or
- Contingent upon pathogen levels or indicator organisms in the water itself.

Support to make these decisions will rely heavily upon trust, specifically in the collection and transparent sharing of data. For example, participation in testing programs will likely diminish if finding pathogens results in regulatory or market penalties. Creating an environment of assessing risk and mitigating it, versus an environment of testing-to-penalize, is essential.

Roadmap: Step 3. Aligning Efforts to Maximize Impact

There are myriad produce safety efforts: research, training and education programs, and industry activities. Although there is a "common cast of characters", some efforts may be duplicative or at least could be more effective if aligned. Though this notion may not land favorably with those who have a vested interest in protecting their initiatives, the benefit of developing trusting relationships is that open communication channels can foster opportunities to leverage existing work and reduce duplicative efforts. In an era of constrained resources, reducing redundancy can create opportunities for new activity. The collaboration should compile efforts and review them critically to identify areas of overlap. Some of this work has already begun through an ad hoc group formed after the April 2025 meeting based on the fall 2024 questionnaire data and other sources of knowledge to categorize produce safety efforts.

Discussions around funding produce safety are a centerpiece of effort alignment. Interest and efforts to reduce the size of the federal government further heighten funding concern. Several participants noted that funding frameworks need to be reenvisioned since traditional federal and state funding sources have been significantly reduced or outright eliminated. This prompted discussions around the need to critically evaluate the value of current efforts and practices in order to identify opportunities to

reallocate or leverage existing resources. Although a review of public funding (e.g., grants) focused on research and/or extension was not conducted as part of the Produce Safety Dialogue, a "Resource Reallocation" ad hoc group formed during the April 2025 meeting concluded that funding could be more efficiently utilized. **Plotting resources against a defined produce safety strategy may be more fruitful than the shotgun approach to today's myriad of overlapping and seemingly disparate efforts.** The Produce Safety Research work group suggested that the research community convene to compile the various produce safety projects and assess how to "divide and conquer", and more clearly envision their role and the funding necessary to advance produce safety research as part of a larger initiative.

Funding Produce Safety Research

There is a critical need to initiate a unified strategy on produce safety research funding, coordinating the fragmented efforts and funding streams that currently exist. Funding for produce safety also pales in comparison to other health-oriented programs. An enduring collaboration should consider exploring what can be gleaned from other successful funding models – such as National Institutes of Health or National Science Foundation grants which are often millions of dollars for drugs and medical device research compared to $700,000 for typical food safety improvement or research projects.

To return to the example of agricultural water as proof of concept, the continuing collaboration should serve as a connector to assure that everyone is headed in the same direction on the roadmap. This requires a scan to identify existing initiatives and stakeholders. Today, there are many agricultural water-related efforts – and rightly so, because agricultural water has remained one of the most difficult challenges to overcome in fresh produce safety since all fruits and vegetables require the application of water. Each of these efforts consume resources, whether those are financial resources (e.g., research supplies, student funding, travel) or time (e.g., worker time to test or treat water, or attend training). Quantifying the total resources currently expended toward a topic such as agricultural water may reveal opportunities to reallocate those resources in a way that will have more meaningful impact and help achieve the defined risk targets previously discussed.

Roadmap: Step 4. Identifying Critical Practices & Priorities

What must be done to achieve defined risk targets? Collaborative efforts must focus on the areas that will provide the most return on investment. Assuming a state of limited funding opportunity for the foreseeable future, from a risk perspective, what practices must be prioritized to provide the biggest public health benefit? Future efforts of an enduring collaboration should expand on this discussion overall. Because root cause analysis was identified as the top priority during the Produce Safety Dialogue, this report utilizes it as an example of both the challenges identified and potential solutions that may be beneficial to pursue in an enduring collaboration.

Surveillance & Root Cause Analysis

As part of the Produce Safety Dialogue process, critical practices/activities were discussed by work groups and further prioritized during the April 2025 meeting. Maintaining and expanding surveillance and outbreak investigations, root cause analysis activities, and sharing of learnings landed at the top of the priority list (See **Figure 2**). These all contribute to identifying the practices that have the greatest influence on produce safety.

A thorough understanding of food safety failures may provide the best evidence for identifying critical practices and during the meeting, participants expressed the importance of learning from outbreaks and "near misses", including what information might be gleaned from these incidents and how that information might be used. However, a caveat to pursue this as a priority approach is the fact that very few outbreaks have resulted in the necessary resolution to elucidate a precise cause. The 2011 outbreak of *Listeria monocytogenes* in cantaloupe was a concrete example where a root cause could be identified. There are other outbreaks where contributing factors could or should trigger changes in behavior. Companies may discern solutions through their internal investigations; unfortunately, those solutions are rarely more broadly applied due to legal and reputational concerns of sharing learnings.

Further, root cause analysis has not been adopted industry-wide and will require a significant shift in mindset. Currently, not all identified or suspected outbreak events are thoroughly investigated by regulators, leaving significant opportunities for knowledge gain on the table. Concerns about cost and lack of industry expertise to conduct root cause analysis are understandable, but ultimately manageable. The greater challenge is that of culture: a posture of "be careful what you look for because you might find something you don't want" is particularly threatening towards progress on incentivizing finding the cause of the problem. To be more successful at learning from food safety failures, all players in the production, harvest, handling, and distribution of produce must embrace and support the benefits of root cause analysis, with full support from regulatory policy and officials.

Fresh fruits and vegetables also pose different challenges to the investigative process than other types of foods (e.g., processed or shelf stable). Short product shelf life, quickly changing environmental conditions, and a complex network for distribution contribute to the lack of insight typically gained when food safety outbreaks occur. If product and contamination sources are known sooner, the knowledge can lessen both the public health and business liability impacts to all involved. **A continuing collaboration in produce safety can help further develop mechanisms to expeditiously and exhaustively mobilize to gather insights quickly to assure learning from food safety failures.**

Key Approaches to Support Root Cause Analysis

Collaboration on Produce Safety Data

Building consensus on what data and meta data should be collected, how input of high-quality data can be achieved (avoiding "garbage in, garbage out"), and clear boundaries on how such data might be utilized and shared and when it might have legal or regulatory implication must be prioritized. Identifying trends, patterns and relationships in data will help detect food safety problems, identify root causes, develop targeted interventions, assess the impact of risk mitigation efforts, and, ultimately, prevent illness and protect public health. Given this importance, most working groups involved in the Produce Safety Dialogue included the role of data in improving food safety in their summary reports. Data was also a consistent theme during the April 2025 meeting, resulting in 16 data-related recommendations, 14 of which were identified by at least one stakeholder as a priority.

Formation of Rapid Response Teams

Produce Safety Data Work Group Outcomes

Data sharing was presented as a clear priority throughout the Produce Safety Dialogue. It was such a high priority that an ad hoc group was mobilized immediately following the April 2025 meeting to begin to digest information presented by the work groups and to synthesize new opportunities for how to leverage data.

The ad hoc work group on produce safety data identified two overarching themes:

- **Theme 1** – Efforts must allow for understanding the context under which an endpoint (e.g., test result) was generated including any associated meta data.
- **Theme 2** – Implementation of these recommendations will require engagement of all stakeholders through the process including policy makers, government agencies, food industry members, industry and professional associations, importers, allied industries (e.g., testing labs, certifying bodies, auditors, equipment manufacturers), academia, and consumer groups.

Data related recommendations:

- **Recommendation 1**: Build consensus on what data are needed.
- **Recommendation 2**: Promote and expand data sharing and dissemination.
- **Recommendation 3**: Develop the infrastructure needed to effectively leverage data for decision-making.

Another potential role is forming a "Go Team" (or regional "Go Teams") of trusted, capable researchers to quickly descend on the suspected source of contamination. These rapid response teams could include academic, government, and private sector scientists, and require sustainable funding. Prior efforts to establish rapid response teams were thwarted by high overhead costs, resulting in diminished funding and resources to allocate to this type of effort. Reputational sensitivities and liability exposure also need to be addressed.

Roadmap: Step 5. Sunsetting Less Impactful Practices and Activities

Recognizing that new financial resources that support implementation or augmentation of critical produce safety practices are unlikely to emerge, the group suggested that, concurrently with the identification of critical practices, a parallel effort to identify practices of less effect (and thus less return on investment) is necessary. Sunsetting less useful practices can also allow for increased bandwidth to adopt more beneficial practices that provide greater reduction of food safety risk. This reallocation of resources will be so critical in the coming years as elements of the food safety funding stream become increasingly smaller for all sectors – research, extension, and regulatory.

Strategic sunsetting should be part of the continuous cycle of evaluating current best practices in light of new science, technology, market, and agricultural production realities. Bringing the often emotionally charged task of sunsetting into strategic conversations can be difficult for any group of collaborators to confront. Sunsetting takes time, changes in culture, and careful consideration of its benefits and risks.

There are many reasons to consider sunsetting certain practices including:

- Public health outcomes have been achieved for the particular commodity/practice (i.e., is this data telling us we now have the hazard under control?)
- Changes in external environment (e.g., extreme weather events, newly identified pathogens of concern)
- Impacts from market influences (e.g., for third-party audits or other verification of practices)
- Limited resources, funding cuts and lack of sustainable funding opportunities

An enduring collaboration can support these efforts by:

- Reviewing the FDA Produce Safety State Cooperative Program (CAP) to assure focus and best resource management at the federal and state levels. This may include examples of "lessons learned" and/or areas of overlapping authority that can be streamlined.
- Convening a working group to review cost/benefit food safety risk management opportunities throughout the supply chain. The intent would be to review the risk profile of each step in the supply chain versus costs to improve (and how much can be improved for what cost). This would provide a better understanding of where money should be applied in the most cost-effective manner to reduce food safety risk.
- Working with the buyer/supplier (grower) stakeholders to consider the holistic risk profile of commodity/product before setting and/or requiring a supplier to meet a standard. In other words, when harmonizing food safety standards, one size does not fit all risk conditions. Rather, considerations within the oversight of the grower (audit performance, under marketing agreement or order), where the commodity is grown (including domestic versus foreign), seasonality, variety, irrigation technique, etc. all affect the risk management strategies that should be applied to growing, harvesting, packing and shipping of fresh produce. Setting a single standard without providing a range responsive to these considerations would not be successful.

Roadmap: Step 6. Achieving a Shared Understanding

Agreement on appropriate, effective produce safety practices by all parties (e.g., producers, buyers, regulators, etc.) does not yet exist. Part of the disconnect can be linked to the lack of knowledge and data sharing within the produce community. Another part is the complexity of the system: determining what constitutes best practices for a given situation (tailored for commodity, region, etc.) requires the analysis of data and the utilization of research, including laboratory research, information gleaned from outbreak investigations, and knowledge obtained through industry efforts. This has previously been discussed in the "Identifying Critical Practices and Priorities" section. While research can reveal the impact of different practices, the choice of what action should be taken is a risk management decision.

While many would observe that food safety is not competitive, food sales are—and this competition can be reflected in individual company actions. **By prioritizing the broad sharing of science and data to support best practices, stakeholders can move beyond individual biases and competing interests.** Ultimately, buyers and suppliers must agree upon the required practices and then move forward to ensure they are implemented - moving competition to the results of interventions rather than the interventions themselves. This approach helps improve food safety overall, which decreases the broad negative economic and public health impact of an outbreak of foodborne illness.

Alignment on a common understanding will need to incorporate scientific, legal, and interpersonal and business relationship contexts as described below.

- Create a shared understanding by acknowledging and agreeing on specific facts and principles.
    - Support from the research community and entities such as the Center for Produce Safety can be leveraged to provide a platform for generating, sharing, and agreeing upon the evidence available.
    - There is a need to engage ALL stakeholders, at all sizes and scales, to spur conversations throughout the entire supply chain. This means stepping outside the Food Safety Modernization Act framework which provides some farms and food producers with exemptions and exclusions.
- Acknowledge that the process involves being vulnerable and requires a level of honesty and openness that may be uncomfortable.
    - Assuming that the risk target is not zero, the ramifications to a company from a product positive or association with illness must be discussed. Shared acknowledgement from the regulatory community must also be achieved to avoid repercussions and disincentives towards openly sharing information.
    - The One Health / The Agricultural Ecosystem work group specifically identified several steps toward identifying and convening a group of legal experts to determine the feasibility of drafting a Safe Harbor Policy for food safety data.

Roadmap: Step 7. Raising Awareness

In an ideal world, all affected stakeholders would engage in establishing practices required to improve produce safety. From a practical standpoint this seems unlikely, and therefore the enduring collaboration should work to identify the best mechanisms to raise awareness of its efforts to all stakeholders. There are many mechanisms through which produce safety information is shared: webinars, articles (from peer reviewed research to popular press to social media), and online and in-person workshops. Communication efforts must be consistent: buyers and suppliers must align around a common understanding and provide clear consistent information regarding practices necessary to advance produce safety. Otherwise, trust is eroded, and a tangled web of messaging impedes progress.

The continuing collaboration should evaluate how to provide growers (as the implementers), buyers and regulators (as the verifiers), and consumers (as the ultimate beneficiaries and stakeholders) with meaningful, actionable information supported by sound science and policy. The Extension system is one primary and trusted mechanism across the United States to disseminate produce safety information, but Extension cannot be the only vehicle to raise awareness. Further, Extension does not account for global communication strategies geared toward foreign producers and exporters of fresh produce.

Through the Produce Safety Dialogue process, a number of entities working more broadly in the produce and public health landscape were identified by an ad hoc work group (See **Figure 6**). A few examples are provided below to illustrate the potential opportunities to increase awareness, both amongst industry members and the general public.

- Healthy People 2030 – The Healthy People initiative is designed to guide national health promotion and disease prevention efforts to improve the health of the nation.
- Consumer education campaigns and organizations – STOP Foodborne Illness, Partnership for Food Safety Education, Consumer Reports, just to name a few, can promote food safety awareness through public service announcements, digital platforms, and more targeted community outreach.
- Buyer groups, an example of which is the Leafy Greens Safety Coalition.

From an advocacy standpoint, greater diversity of voices is needed to make recommendations and generate Congressional support for funding. The enduring collaboration should address both the best practices component and the policy/advocacy component, but through different workstreams (allowing government employees to participate in the best practices work but separating them from advocacy activities).

Roadmap: Step 8. Implementation

Once the practices and priorities are identified, agreed upon, and socialized, they need to be implemented. Implementation requires significant technical assistance, capacity building within the workforce, and funding.

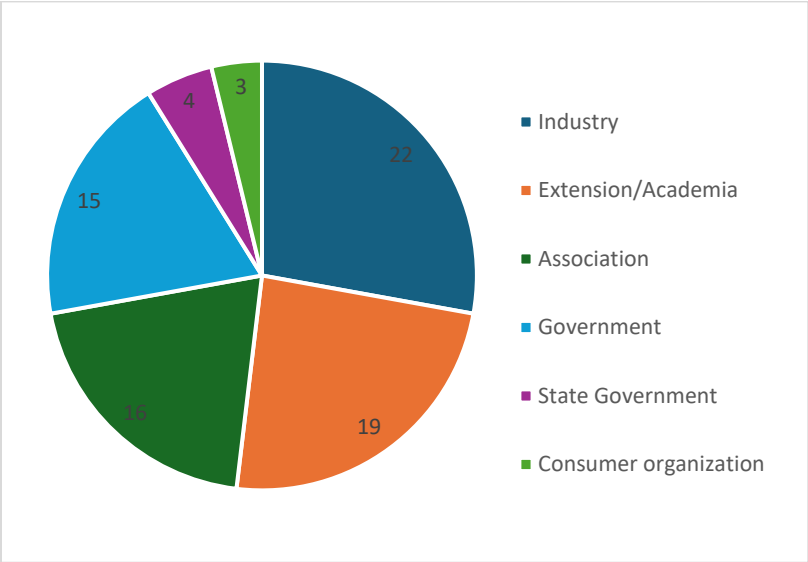
Creating a Technical Support Network

A continuing collaboration should conceptualize and advocate for the establishment of a technical support system that can be responsive to industry needs with the agility and expertise to serve local communities. The Center for Produce Safety which, for over a decade, has funded applied produce safety research. Their motto has been “fund the science, find the solutions, fuel the change”. Historically, they have excelled at the first two, and there may be an opportunity to leverage their network of industry and research scientists to invest more heavily in the “fuel the change” going forward.

Extension is a major source of technical assistance. Today, extension work is often funded through “soft money” (such as through government grants like USDA National Institute of Food Agriculture’s Food Safety Outreach Programs (FSOP) and lacks stability. When the work groups assembled to discuss priorities in April 2025, the need for a sustainable funding model for produce safety extension was identified as the second highest priority (See **Figure 2**). Although this could have been influenced if extension professionals were overrepresented, the stakeholder construct at the meeting (See **Figure 5**)

and the nature of the discussion suggest that extension services are valued by more than just those with extension roles.

Figure 5. Participant Affiliations in the Produce Safety Dialogue Meeting - April 2025



In addition to funding uncertainties, extension services are not generally viewed as favorably as research scientists within the academic model. The academic reward system heavily weighs peer reviewed publications - and these are likely seldom read by growers, processors, and others in the produce industry. The Policy & Economic Opportunities work group recommended funding effective education and outreach programs through strong and consistent state cooperative agreement (CAP) programs. This recommendation comes at a crucial time when many of these same programs have experienced significant funding and staff cuts in recent months. **In the absence of government funding, or with reduced funding, private sector investments must be sought.**

In addition, produce safety efforts much be enhanced outside the US border: Roughly half of the fresh produce consumed by Americans is imported. Overseas producers may not have access to extension services comparable to those in the United States. Buyers may support implementation, perhaps by connecting extension professionals and other subject matter experts with their overseas supply chains. The Produce Imports work group identified the opportunity to work with governments outside the United States to support their domestic industry. In a post-survey for the April 2024 meeting, several participants noted that the topic of imports was largely undiscussed and warrants more attention for further dialogue.

Capacity Building in the Workforce

Stakeholder responses to the questionnaire that informed the Produce Safety Dialogue work groups suggested that more qualified, trained produce safety professionals were needed. In addition to the eight workgroups that supported this effort, two other workgroups were initially proposed: one to

think through ways to recruit individuals to pursue careers in produce safety, and another to identify the key knowledge, skills, and abilities associated with a produce safety professional. These were ultimately deprioritized relative to the other eight topical areas due to lack of individuals willing to lead and engage in the conversation. **The enduring collaboration may need to revisit and develop a strategy around building a qualified produce safety workforce, including having adequate expertise within the industry, research, extension, and regulatory communities, along with the industries that support produce safety (e.g., auditors, software providers, labs, etc.).**

Investing in Changes to Produce Safety Systems

Despite the resources that are already used to support produce safety efforts in the industry (e.g., sanitation chemicals, testing, more hygienically designed equipment and facilities, audits, and so forth), improving produce safety may require additional resources beyond what is currently available. The enduring collaboration can play a substantial role in gaining agreement on the practices required to improve produce safety and can also facilitate discussions around appropriate cost sharing models. No single stakeholder should bear the financial burden of improvements that will benefit all supply chain members (through the avoidance of recalls and outbreaks) and ultimately provide consumers with a greater level of public health protection. Rather, the financial support should be a collective effort.

Both public and private investment are necessary. Investments in produce safety must be strategic and align with businesses who qualify and need assistance. For example, specialty crop block grants for food safety improvements were offered but very few growers were actually qualified to receive the funds, resulting in a missed opportunity to provide support where it was needed.

Funding must also account for efficiency of scale. While larger growers may be able implement produce safety practices more easily, returns on food safety investments benefit *all* scales of growers. Though the relative cost burden is higher, smaller scale growers also have greater relative benefits of increasing sales to new markets and buyers (Schmit et. al., 2020). When broader financial support for produce safety stakeholders is secured, achieving public health goals could be attained more easily because everyone within the food system would be pursuing a common goal using identified best practices rather than being subject to exemptions or exclusions from implementing produce safety practices based on market or business size.

Verification

Verification systems should be updated to reflect consensus practices and prioritization. Verification systems should *verify* that the critical practices are appropriately implemented; the verification system should *not* be the entity that specifies the critical practices. This approach must be agreed upon by buyers and suppliers, based on the scientific data and evidence available from the research community, and include lessons learned through outbreak investigations.

In addition, the use of regulatory inspections to verify practice implementation falls short of truly assessing a farm or packinghouses' food safety competency. To use parallel terms identified in the Preventive Controls Rule for Human Food that could be applied in produce, inspections should place more emphasis on evaluating an operation's hazard analysis and effectiveness of their preventive controls. Literacy about how to identify hazards and assess risk in a systematic way is still lacking in the produce industry, further leading to challenges in the verification of practices.

There was strong sentiment that audits, including buyer addenda, require growers and others in the supply chain to do things that, in a given situation, may require more resources than the value generated towards risk reduction. The multitude of audits (both second and third party) that some operations are subject to consume resources that may be better spent on making improvements to food safety systems. **Once there is identification of and alignment around best practices, audits should be streamlined to focus on priority areas agreed upon by the produce community.** Buyers would need to resist the urge to unilaterally add new requirements. If new efforts are truly important, this should be raised within the collaboration and be used to update critical practices and the common goal, not at the stage of verification.

As discussed earlier in this report (See **Collaboration on Produce Safety Data**) sharing data provides opportunities for enhanced verification and provides feedback on the efficacy of certain practices. With more robust data collection systems were in place, there could be greater opportunity to have less reliance on audits and reallocate these resources and efforts elsewhere.

Section II - Enduring Collaborations to Support Progress

One work group explored several models of a structured, stand-alone, professionally-supported organization to create an enduring collaboration. The group provides three potential models for the enduring collaboration: an Alliance, a Build-Own-Operate, and a Joint Venture (See **Table 1** below for comparison of those models), each of which has their own strengths. A Build-Own-Operate or Joint Venture model may yield results more quickly because of clear investment and ownership of the effort. An Alliance may require an expert facilitator/convener to yield the same effect. Regardless of the model pursued, the collaboration should begin with this Need Assessment:

Overall Need: *A collaborative organization providing the* ***leadership*** *and* ***infrastructure*** *(such as project management) to help collaborators* ***develop and maintain trust*** *to then achieve objectives of the Strategic Roadmap (being developed in other Work Groups) and have a mechanism for tracking progress against goals.*

A successful organization will have:

1. ***Transparent governance, funding. and decision-making structure*** *to help keep partners together, pursuing a* ***unique*** *purpose*

2. *Structure **aligned** with **stakeholders' mission/goals** and is practical for various participants, including buyers and growers.*
3. ***Flexibility & Adaptability** – The infrastructure must evolve with industry, regulatory, and environmental changes, based on candid governance discourse addressing shifting government policies and industry trends.*
4. ***Centralized Resource Hub** – Place to **pool resources** (financial, personnel, and information) and reduce redundancy*
5. ***Facilitate Communication & Community Development** – Venue for candid discussions, breaking down silos especially for stakeholders who don't typically have a forum to talk to each other.*
6. ***Uniqueness & Complement (Not Duplicate) Association Efforts**– Avoid redundancy by ensuring the structure offers a distinct value proposition compared to existing efforts--coordinating association efforts and bringing in other voices/partners.*
7. ***Inclusive Representation** – Must engage participants of all sizes from private sector (academia, consumer organizations, industry, public health organizations) and all jurisdictions across government (state, local, territorial, and tribal).*

Participants in the collaboration should engage the following group (See **Figure 6**), with essential participants identified in green. Functions such as project management, legal advice, and financial management would be provided by the professional facilitator.

One existing and successful model is the Food and Beverage Issues Alliance (FBIA; https://www.feedingus.org/about). With 48 allied members, FBIA is able to advance the food and beverage industry through reasonable and scalable member dues, plus in-kind services offered by members to support the Alliance's goals.

Figure 6. Non-exhaustive list of potential produce safety collaborators.

Table 1. BOO, Alliance, and Joint Venture Models

	Alliance	**BOO (Build-Own-Operate)**	**Joint Venture (JV)**
Definition	- A collaborative framework where stakeholders share risks, rewards, and decision-making without forming a new legal entity. The key to the alliance model is the sharing among the parties, rather than the division between them, of the risks and responsibilities connected to the execution of the project.	- A private entity finances, builds, owns, and operates an asset indefinitely.	- A business arrangement in which two or more parties agree to pool their resources for the purpose of accomplishing a specific task. - Each of the participants in a joint venture is responsible for profits, losses, and costs associated with it. However, the venture is its own entity, separate from the participants' other business interests.
How It Is Activated	1. **Need Identification and Assessment:** Governments/organizations identify complex challenges with a shared goal. 2. **Stakeholder Engagement:** Collaborative discussions to define objectives and partner roles. 3. **Framework Development and Formalize partnership:** Define goals, governance, and risk-sharing. Outline partnership responsibilities. 4. **Funding & Resource Allocation** – Budget contributions from multiple stakeholders are determined. 1. **Execution & Continuous Monitoring:** Partners work collaboratively on project objectives. Project reviewed periodically, with flexibility for adjustment.	2. **Need Identification and Assessment:** Government or private sector identifies service needs. 3. **Regulatory Review:** Ensure alignment with local laws and policies. 4. **Bidding Process:** Private firms submit proposals and secure financing and investment. 5. **Contract Signing:** Risk allocation, funding, and revenue model defined. 6. **Implementation & Operation:** Private entity builds and manages the asset. 7. **Revenue Generation & Monitoring** – Funds recovered via fees or contracts.	1. **Need Identification and Assessment:** Two or more parties identify a joint business goal for mutual growth. 2. **Stakeholder Selection:** Potential partners assess each other's capabilities, risks, and goals. Define roles, decision-making processes, and governance. 3. **Legal & Financial Structuring:** Create a separate entity with shared equity. 4. **Funding & Resource Allocation:** Partners provide funds, expertise, or assets.

Governance Body	- A designated group of representatives from each partner company responsible for overseeing the alliance, making key decisions, and resolving disputes. - A three-layer system, where each of the partners is represented in the Executive Steering Committee, Governance board and in the project teams.	- Private sector-led governance with regulatory oversight from the government. - Typically managed by a Board of Directors appointed by the private entity. - Independent auditors and compliance teams ensure regulatory adherence.	- Managed by a Board of Directors representing all partners. - Typically established through a detailed legal contract and involving a Board of Directors with representatives from each partner, where decision-making power is distributed based on their ownership stake in the venture.
Ecosystem: Who is Involved?	- Government agencies. - Private sector partners. - Academic institutions. - NGOs & civil society groups. - Multilateral organizations.	- Government (as regulator/contract provider). - Private sector investors. - Financial institutions (lenders or investors). - End-users (who pay fees for services).	- Corporate entities or businesses. - Investors are providing capital. - Industry specialists providing expertise. - Government (if public-private joint venture).

Key Characteristics for Success	1. **Common Vision with Alignment:** Shared objectives with clear stakeholder roles. 2. **Flexible Governance Model:** Adaptability to changing circumstances. 3. **Transparent Risk & Reward Sharing:** Collaborative management approach. 4. **Stakeholder Engagement:** Inclusive decision-making. 5. **Long-term Performance Monitoring:** Data-driven evaluation. **1. Risk Allocation**: Risks are shared and managed collaboratively.	2. **Clear Contractual Agreements:** Well-defined ownership, risks, and revenue mechanisms. 3. **Financial Sustainability:** Long-term funding and revenue model. 4. **Risk Allocation:** Private entity assumes most risks (construction, financing, operation) 5. **Regulatory Compliance:** Adherence to public policies. 6. **Operational Efficiency:** Performance-based monitoring. 7. **Public Acceptance:** Ensuring affordability and accessibility.	1. **Clear Governance Structure:** Defined roles, responsibilities, and control mechanisms. 2. **Equal Financial & Risk Sharing:** Investment proportional to equity stakes. 3. **Efficient Decision-Making:** Transparent and agile management. 4. **Defined Exit Strategy:** Clear dissolution or expansion plans. 5. **Risk Allocation:** Risk allocation is based on the ownership and agreement structure.

Section III – Developing the Roadmap: The Process and the People

Process & Methods

To capture input from the diversified nature of individuals involved in the fresh produce industry, a public questionnaire on produce safety (See **Appendix C**) was developed and launched in the fall of 2024. The survey was sent through a variety of mechanisms including 70+ personal contacts of the Reagan-Udall project team members, a Reagan-Udall e-blast reaching ~23,000 contacts, FSMA Regional Centers and Alliances, associations and grower organizations (e.g., International Fresh Produce Association, Western Growers, Partnership for Food Safety Education (PFSE)), Plain growers (Amish/Mennonite communities), and via LinkedIn shares and reshares. The survey was open through November 8, 2024. Eighty-five English and fifteen Spanish questionnaires were submitted.

The information collected from the questionnaire was used to develop the focal areas of discussion, leading to the development of eight working groups. Work group leaders were identified by their content expertise and leadership in produce safety. Work groups began recruiting members in November - December 2024, with most convening their first meeting by January 2025. All work groups were provided with a framing document to help guide the discussion and collect consistent information. Each work group leader had varying approaches to facilitating their discussions; some chose to convene their discussions online as a group (e.g., on Zoom), while others chose to first interview key stakeholders privately before bringing the entire group together for discussion. The information presented in Section 3 of this report reflects the discussions and priorities of each work group. These insights will be shared, discussed, and prioritized at a hybrid (in-person and online) meeting hosted in Washington, D.C on April 24, 2025.

Questionnaire Responses: Key Themes

Education and Training: importance of continuous education and training for all stakeholders, including growers, regulators, and consumers.

- Training programs such as those provided by the Produce Safety Alliance (PSA) through webinars, hands-on demonstrations, and Spanish-language resources are essential.
- Extension advisors and outreach programs play a vital role in educating growers and enhancing the food safety culture.
- Effective education helps establish a robust food safety culture and ensures compliance with food safety standards.
- Platforms like 'Produciendo con inocuidad' for self-learning should be cited as exemplary tools for producer education.

Collaboration and Partnerships: Strong collaboration among federal, state, industry, and academic stakeholders is crucial to improving produce safety.

- Federal and state regulators, such as FDA, CDC, and USDA, work together to create an environment where food safety standards are shared and implemented across the supply chain.
- Industry partnerships help share best practices, improve safety measures, and support educational outreach.
- Collaboration with international suppliers is also necessary for global food safety alignment.

Regulations and Frameworks: importance of regulatory programs like FSMA, GAP, and FSVP in improving food safety but highlight the need for improvements.

- FSMA has provided a clear framework for growers to implement food safety controls.
- Existing regulatory frameworks, while beneficial, still need clearer guidance and more regional and crop-specific adaptations.
- Regulatory complexity, including the focus on enforcement rather than prevention, is a significant challenge to progress.

Research and Innovation: Ongoing research and technological innovation are vital for understanding contamination risks and improving food safety practices.

- The Center for Produce Safety and other research organizations provide valuable insights into microbial risks and environmental factors that affect food safety.
- Advanced tools like Whole Genome Sequencing (WGS) and traceability systems are critical for detecting contamination sources and improving safety measures.
- However, translating research into practical, real-world applications remains a challenge.

Practical Solutions and Risk Management: importance of practical solutions, such as enhanced hygiene practices, water risk assessments, and tailored training.

- A focus on proactive risk management, such as root cause analysis, is essential for preventing food safety incidents before they occur.
- Risk-based strategies and the use of data-driven solutions to assess vulnerabilities in the supply chain can improve food safety management.

Challenges and Barriers:

- Key obstacles to progress include resource limitations, regulatory complexity, and the lack of tailored recommendations for smaller or regional farms.
- Financial constraints, especially for small and mid-sized farms, lead to audit fatigue and non-compliance.
- The reluctance to share data due to fears of regulatory repercussions hinders transparency and collaboration.
- Language barriers and insufficient education for non-English-speaking growers remain significant challenges.

Consumer and Public Engagement: the role of consumer education in food safety, particularly through awareness campaigns that highlight proper handling practices.

- Public awareness of food safety practices, such as washing produce and understanding the complexities of the food system, is essential for reducing risks at the point of sale and in homes.
- Consumer education also helps raise trust in the safety of fresh produce, fostering shared responsibility across the supply chain.

Policy Recommendations: the need for more flexible, adaptable, and clear regulations that can accommodate regional and crop-specific needs.

- Simplifying the regulatory framework and moving toward a prevention-focused approach is crucial for enhancing food safety.
- Allocating more resources to scientific institutions, research, and public health departments will help improve food safety education, surveillance, and outbreak investigations.
- Policies should support small and regional farms through funding, grants, and subsidies to ensure they can meet safety standards without undue financial strain.
- Infrastructure and Technical Assistance: Investments in infrastructure like water management and post-harvest practices were emphasized as crucial in the Spanish version
- Global and Regional Collaboration: Include training exchanges and regional collaborations to share best practices and experiences.

Role of Organizations: Organizations play a key role in providing education, research, advocacy, and ensuring compliance with food safety regulations.

- They offer technical support, develop tools for compliance, and advocate for science-based, economically feasible policies.
- Collaboration with regulators and industry stakeholders helps strengthen the food safety system.
- Supporting small and disadvantaged farmers, particularly through technical assistance and culturally sensitive outreach, is essential for ensuring equitable access to food safety resources.

Personal Role in Produce Safety: Individuals within the food safety system have a responsibility to ensure compliance with regulations, advocate for improved policies, and foster a food safety culture within organizations.

- Personal leadership involves mentoring others, integrating food safety into company values, and ensuring clear communication across the supply chain.
- A focus on continuous improvement and innovation, along with proactive risk management, will drive long-term improvements in produce safety.

Strategic Recommendations for the Future:

- **Collaboration and Data Sharing**: Foster greater collaboration and knowledge sharing between all stakeholders, including regulators, growers, and consumers. Transparent data sharing will improve risk detection and help refine safety measures.
- **Regulatory Synergy**: Streamline regulations, ensuring clarity and flexibility to accommodate diverse crops and regions. A focus on prevention, rather than enforcement, will help improve industry compliance.

- **Consumer Awareness and Responsibility**: Educate consumers about the importance of proper food handling practices and raise awareness of the efforts made by growers to ensure produce safety.
- **Support for Sustainable Practices**: Promote policies that encourage small, regional, and sustainable farming practices to reduce risks and enhance food safety. Encourage crop diversity and minimize pesticide use.
- **Localized and Specific Training Needs:** Emphasize tailored training for specific produce (e.g., leafy greens, berries) and varying irrigation methods (drip, sprinkler, rainfed).
- **Localized and Specific Training Needs**: Highlight the inclusion of culturally relevant training materials and approaches, considering Latin American producers and Spanish-speaking stakeholders.
- **Producer Support:** Provide immediate safety-related assistance via qualified technical staff in all regions and subsidize resources for small-scale producers.
    - Develop bilingual and culturally sensitive FDA resources to enhance accessibility for diverse producers.
- **Collaboration with Latin American Countries:** Recognize the role of Latin American suppliers and propose solutions for their specific challenges, such as involving local universities and trade unions.
- **Streamlining Practices:** Simplify agricultural water assessment systems to reduce burdens on producers.
- **Public-Private Partnerships:** Encourage more significant involvement of trade unions and private entities in ensuring compliance with FSMA standards.

Section IV – References

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Section VI - Appendices

Appendix A – Work Group Member Participation

<To include list of individuals who engaged in work groups; opt out option to be sent by Reagan-Udall team>

Appendix B – April 24, 2025 Meeting Agenda

9:30 AM	**Welcome** Susan C. Winckler, RPh, Esq., Chief Executive Officer, Reagan-Udall Foundation for the FDA
9:35 AM	**Opening Remarks** Erik Mettler, MPA, MPH, Assistant Commissioner, Office of Integrated Food Safety Systems Partnerships
9:45 AM	**Building a Roadmap to Success in Produce Safety** Jennifer McEntire, PhD, Reagan-Udall Foundation; Founder, Food Safety Strategy, LLC
10:00 AM	**Our Produce Dialogue Process** Gretchen Wall, MS, Reagan-Udall Foundation for the FDA; Sr. Director, Food Safety Strategy, LLC Perpetue Backer, PhD, Reagan-Udall Foundation for the FDA; Regulatory Sci. & Innovation Fellow
10:20 AM	**Work Group Key Take-Aways**
11:15 AM	**Discussion & Q&A**
11:50 AM	**Afternoon Workplan & Breakout Assignments**
12:00 PM	**LUNCH**
1:00 PM	**Breakout Sessions: Identification of Additional Activities**
1:45 PM	**Report Out of Breakout Sessions**
2:15 PM	**Selecting Priorities – Voting Exercise**
2:30 PM	**BREAK**
2:45 PM	**Group Discussion**
4:30 PM	**Next Steps and Adjourn**

Appendix C – Produce Safety Dialogue Questionnaire

Disseminated October 2024

Background

The Reagan-Udall Foundation for the FDA is leading a stakeholder dialogue process to explore new strategies for produce safety and the development of a collaborative public-private partnership (PPP). Ensuring the safety of fruits and vegetables requires a holistic approach. To aid in the goal of improved protection of public health and establishing a PPP, the Foundation is collaborating with stakeholders from agricultural communities, industry, academia, and government to develop a shared understanding of the challenges and a vision for protecting public health.

The Reagan-Udall Foundation for the FDA (the Foundation) has developed this questionnaire to obtain a breadth of perspectives as we work toward facilitating a dialogue to advance produce safety. Other than the first question, all other questions are optional. Please scan the questions and respond to those of greatest interest.

This questionnaire is aimed at gathering input on existing produce safety efforts, gauging priority areas for future discussion (especially from stakeholders who represent diverse views), and seeking contributors to future dialogue.

Question Title

* 1. Which stakeholder group best describes you/your organization? (select up to three)

- ☐ Academia
- ☐ Audit organization
- ☐ Consumer advocacy group
- ☐ Consultant
- ☐ Educator (K-12)
- ☐ Extension educator
- ☐ Federal regulator
- ☐ Food animal producer (cattle, poultry, swine, etc.)
- ☐ Food distributor
- ☐ Food industry member (non-produce, non-food animal)
- ☐ Government, non-regulatory
- ☐ Importer
- ☐ Nutritionist/registered dietician
- ☐ Produce grower/shipper/packer
- ☐ Produce processor
- ☐ Public health professional
- ☐ Researcher
- ☐ Retail/foodservice/institution operator
- ☐ State/local/tribal/territorial regulator
- ☐ Scientific/professional association professional
- ☐ Service provider (laboratory, software, sanitation, etc.)
- ☐ Trade assn. (animal agriculture) professional
- ☐ Trade assn. (produce) professional
- ☐ Trade assn. (other) professional
- ☐ Other (please enter)

General Produce Safety

2. What groups/organizations are you aware of that have produce safety (e.g., extension, education, research, policy, etc.) as one of its focal areas?
3. What stakeholders have *not* been sufficiently engaged in current and prior produce safety conversations?
4. What is working well for produce safety programs?
5. What can help improve produce safety?
6. What do you believe is a major obstacle to produce safety progress?
7. What major policy changes might improve produce safety?
8. What do you see as your organization's role in produce safety?
9. What do you see as your personal role in produce safety?
10. What is one thing that stakeholders can do to increase the safety of fresh produce?
11. With our goal of exploring new strategies for produce safety and the development of a collaborative public-private partnership, are the any additional comments you would like to share as we embark on this effort?

Your Interest

12. If you are interested in engaging in further dialogue, please share your contact information and select your priority interests. (optional)

First & Last Name:
Organization:
Email/Phone:

13. I'm most interested in participating in further dialogue on the following priority areas (check all that apply): Workgroups will be formed around areas of priority interest.

- ☐ Buyer (including audit) specifications for produce safety
- ☐ Education and Training: Efforts and outreach to the produce industry on best practices
- ☐ Imports: Assessing the needs of a global produce supply chain
- ☐ Industry-Regulatory collaboration
- ☐ One Health: The intersection between produce production, agriculture, and public health
- ☐ Policy and economic opportunities to improve produce safety
- ☐ Public-Private Partnership: Developing the structure and governance of a Public-Private Partnership around produce safety
- ☐ Research: Brainstorming and prioritizing produce safety research needs
- ☐ Other (please describe):