PURDUE UNIVERSITY

Center for Food and Agricultural Business

CAB CS 15.3

September 1, 2015

Rocky Ford Cantaloupe: The Challenge of Sweet Success

Introduction

In late August of 2011, a group of proud, dedicated, and heretofore successful produce growers from a small valley in Colorado experienced their worst nightmare. Demand for cantaloupes from Rocky Ford, Colorado fell to zero. Literally, state and federal health and regulatory agencies encouraged consumers who had purchased these melons to discard them. Distributors and retailers recalled all melon products grown in the Rocky Ford area. In a matter of days, Rocky Ford cantaloupe had been identified as the source of one of the worst *Listeria* outbreaks in U.S. history.

For Rocky Ford's Michael Hirakata, a fifth generation Rocky Ford melon grower, approximately 70-75 percent of the farm's annual revenue was attributed to melon sales. Hirakata Farms had approximately 900 acres, 150 of which were planted to melons and, specifically, cantaloupe. To make matters worse, an additional 250-300 acres of melons were processed through Hirakata Farms' packing facility on behalf of other Rocky Ford growers. For the last 98 years, the Hirakata family had grown Rocky Ford melons. Michael's great-grandfather Tatsunosuke, the farm's founder, emigrated from Japan in the early 1900s, initially finding work with the railroad in Colorado. After settling in Rocky Ford, he and his son Keji purchased some ground and began farming. And while they have always been a diversified operation, cantaloupe has been a steady constant in the mix.

Hirakata Farms wasn't alone though. Approximately 15 large growers supplied melons to retail markets from the Rocky Ford area. These were the largest growers whose produce was distributed both state-wide and beyond through formal distribution channels. A few smaller growers supplemented the local market at road-side stands, but the lion's share of the market was dominated by the larger growers.

Rocky Ford was inextricably tied to melon production and had been for well over a century, but growers very quickly went from experiencing another outstanding year to a disaster. Had the Rocky Ford cantaloupe success story temporarily veered off course or had it been permanently altered? At what cost would melon growers recover? Simpler yet, would they recover?

This case study was prepared by Angela M. Gloy, Ph.D. and Brent A. Gloy, (Visiting Professor, Department of Agricultural Economics, Purdue University). The authors would like to thank Michael Hirakata, owner of Hirakata Farms and President of the Rocky Ford Growers Association, and Tom Lipetzky, Director of Marketing for the Colorado Department of Agriculture, for their assistance in case study development. The case is a basis for class discussion and represents the views of the authors, not the university.

History and Background

Rocky Ford is situated in the Arkansas River Valley in the southeast quadrant of Colorado. A unique mix of geographic and environmental factors contributes to help create some of the sweetest cantaloupes grown in the U.S. Colorado's Otero County boasts not only the necessary rich, sandy soils but the combination of cool nights and warm days that yield the high sugar content found in locally grown cantaloupes. Rocky Ford melons are a long-standing consumer favorite irrespective of market size or location within the U.S.

More than 125 years ago, George W. Swink began growing melons in Rocky Ford. And had it not been for the Atchison, Topeka & Santa Fe Railroad running alongside the Arkansas River, Swink might not have found such quick product success. The close proximity to rail transport greatly enhanced marketability and subsequent demand for the melons from Swink's farm. To prove the point, Swink was producing in excess of 300 tons of watermelon after just 4 years. It appears the right growing and marketing conditions had been in place from the beginning for long-term product success.

Since then, Rocky Ford melons have achieved somewhat of a celebrity status. They were the cantaloupe of choice at New York City's Waldorf Astoria Hotel. Across the country, actress Lucille Ball was requesting Rocky Ford cantaloupes in her dressing room. In 2011, Rocky Ford melon growers had marketed more than 20,000 tons of cantaloupe with distribution spanning 25-30 states, suggesting continued national recognition of, and appreciation for, their flavor profile.

Understandably, produce growers across the southeast region chose to market melon products under the unofficial Rocky Ford brand. The Rocky Ford name on a cantaloupe translated to strong demand and an associated price premium. In an effort to leverage such "sweet" economic benefit, nearby growers from outside Rocky Ford proper chose to market under the unofficial melon brand. Growers inside a 2-hour radius were typically using the Rocky Ford brand despite their different zip code. Technically, there was only a de facto Rocky Ford brand and no official growers association. There was no official logo or coordinated marketing campaign. Growers simply flexed their marketing muscle and autonomously labeled their melon products as being from Rocky Ford for the premium it commanded. The total number of melon growers in 2011 loosely selling their product as Rocky Ford cantaloupes is unknown, but the Rocky Ford cantaloupe crisis was ultimately traced back to Jensen Farms, located 85 miles east in Granada, Colorado.

The large production volume and labor-intensive nature of melon harvest in this corner of the state necessitates that growers turn to the local labor supply for seasonal employment May through November. But cantaloupes offer the Rocky Ford community more than just economic benefit. They also offer this small agricultural town of approximately 3,900 national notoriety. As one drives into town along Route 50, the welcome sign reads: "Rocky Ford—Sweet Melon Capital." Locally, cantaloupes are so deeply entrenched in the local community culture that that the Rocky Ford High School mascot is the Meloneer. Translated, even non-grower residents identify with, and claim pride in, the cantaloupe tradition.

Overview of Events: The Regulatory Agency Perspective

The first hiccup of the 2011 Rocky Ford cantaloupe season occurred in late August. Initial cases reported to the Colorado Department of Public Health and Environment (CDPHE) came from sick consumers who, correctly, believed they had suffered a food-related illness. In the four days between August 29 and September 2, a total of seven cases were reported to CDPHE. The CDPHE recognized the *Listeria* symptoms and in turn reported them to the Centers for Disease Control (CDC) on the 2nd. By September 6, there were three important developments in the outbreak. The first was investigators' ability to identify specific *Listeria* strains related to the outbreak. In instances of foodborne-illness investigations, state and federal investigators turned to *PulseNet*, a national network of laboratories that track and identify foodborne pathogens. By the 6th, *PulseNet* identified the specific strains of *Listeria monocytogenes* associated with the initial seven victims and tested samples from cantaloupes in the homes of two additional individuals in Nebraska and Texas. Second, interviews with the initial seven Coloradoans revealed a common cantaloupe link. And finally, three of the interviewees identified the consumed melon as Rocky Ford cantaloupe. On September 7, the CDC initiated a multi-state investigation into the outbreak. For the next two days, the CDPHE collected and tested cantaloupe samples from retail outlets where ill individuals reported buying them. On September 10, the Food and Drug Administration, in concert with CDPHE, recalled all cantaloupe products in all retail outlets that were grown by a single grower: Jensen Farms, of Granada, Colorado.

As additional illnesses were reported across the country and suspected product tested, *PulseNet* was able to confirm the cantaloupe connection on a case-by-case basis. Within a relatively short window, the collective efforts of local, state, and federal public health officials and regulatory agencies (1) identified the exact source of the contaminated cantaloupes, as well as their related distribution and retail networks, and (2) implemented public safety measures, including reporting and recall measures. By December 8 when the CDC's final report was made available, the *Listeria* outbreak attributed to Jensen Farms had proven fatal for 30 people and infected another 146 across 28 states . One miscarriage also was attributed to the outbreak. [1]

A copy of the CDC's timeline of events is provided in Exhibit A. Exhibit B provides an epicurve in which the CDC tracks dates of infection and specimen collection across the investigative window. A map of those affected by state is provided in Exhibit C. A copy of the CDC's final update, dated December 8, 2011 is provided in Exhibit D.

Listeria monocytogenes

Listeria monocytogenes is a serious and potentially deadly foodborne pathogen. If not treated with antibiotics, a *Listeria* infection spreads beyond the intestines to other body parts and even the blood stream highlighting the importance of early detection. The highest risk groups for *Listeria* infection include the elderly, those with compromised immune systems, and pregnant

1 In August 2012, the CDC provided an addendum to their final report. In it, the number of infected individuals was increased to 147 and the total number of deaths increased to 33. These individuals were ultimately determined to have been affected by the cantaloupe outbreak but not initially linked to it. The full addendum can be found at http://www.cdc.gov/listeria/outbreaks/cantaloupes-jensen-farms/082712/index.html

women as well as their newborns. Individuals outside of these high-risk groups can also become ill from *Listeria* bacteria, though occurrences are less common. Of the 146 people who fell ill from the cantaloupe outbreak, 143 (99 percent) were hospitalized. Ages of the infected ranged from less than a year to 96 with a median age of 78 years. There were seven pregnancy-related cases. Pregnancy-related illnesses are treated as a single case for mother and baby and, in this instance, three of the seven pregnancy-related cases were newborns. The remaining four were cases of pregnant mothers.

Annually, there are approximately 800 cases of laboratory-confirmed *Listeria* cases each year. *Listeria* outbreaks are most commonly associated with consumption of processed meats and Mexican-style soft cheeses from unpasteurized milk.[2] In 2011, the CDC investigated 11 *Listeria* outbreaks, one of which was associated with cheese and another with Rocky Ford cantaloupes. In addition to those infected by contaminated cantaloupe, another 474 individuals fell ill to *Listeria* in 2011. The 2011 *Listeria* Summary notes that the only three states not to experience a *Listeria* illness were Alaska, Delaware, and Vermont (Exhibit E).

Just seven years prior, the CDC developed the *Listeria* Initiative (Exhibit D) motivated by continued increases in reporting frequency. The *Listeria* Initiative was initially tested in select pilot markets but implemented nationally the following year in an effort to expedite reporting and investigative efficacy. The development of a *Listeria* Case Report Form (Exhibit E) created a single template from which public health agencies could investigate reported cases. Highly coordinated and common information per patient helped streamline investigative processes. Note that in the Rocky Ford case, public health agencies were able to identify a single contamination point inside of 13 days which is especially noteworthy in light of national distribution. From a preventive perspective, efforts gleaned from the *Listeria* Initiative led the CDC to estimate that investigators had prevented an additional 36 illnesses and seven deaths. Most previous outbreaks were attributed to processed foods. How big a risk is produce? Until 2011, it appeared to be relatively small with only two previous outbreaks linked to sprouts (2009) and fresh celery (2010).[3] Consistent with the previous two produce outbreaks, the contaminated Rocky Ford cantaloupe bacteria was present in the soil and able to survive then-existing processing treatments. In the absence of tightly controlled processing plant practices, the *Listeria monocytogenes* bacterium will not just survive field harvest but continue to grow during post-harvest operations.

Moreover, cantaloupes are an inherently higher *Listeria* risk because of their netted skin. In contrast, it is harder for *Listeria* bacterium to adhere to a honeydew's smooth skin. To abandon cantaloupes all together was a viable option for growers who knew that the *Listeria* fight would never recede. If growers chose to come back into the cantaloupe market, their food safety efforts would have to be stringent and persistent. That decision would necessitate a whole new level of commitment to food safety practices than they had had previously, even if earlier practices were sufficient. The consumer would need an entirely different level of assurance after this outbreak.

---

2 Centers for Disease Control, Final Report, December 8, 2011.

3 Food Safety, April/May 2012. "Environmental Monitoring for Listeria: Getting Started" (David E. Gombas, Ph.D.)

Overview of Events: The Growers' Perspective

Regulatory agencies and farm groups acted quickly once the source of the outbreak was identified. The CDC and the CDPHE responses were geared toward their regulatory purpose: public safety. The U.S. Food and Drug Administration (FDA) cast a broad net across all Colorado cantaloupe growers early in the investigation. FDA advisories warned consumers against eating any Colorado-grown cantaloupe. Even as FDA identified the lone contaminated farm, all cantaloupe producers were still reacting to the unforeseen crisis. For growers, the late-August outbreak occurred at the tail end of the marketing season. Cantaloupe revenue from the 2011 season was clearly affected, but the far bigger risk was the following season. The September through February window was a long one for growers who were uncertain about how the outbreak would impact 2012 cantaloupe demand. Their first order of business was to decide if they would continue producing cantaloupe. A second concern was how best to address the loss of consumer confidence if they did plant cantaloupes in 2012. For most Rocky Ford melon growers, there was small consolation in that they were diversified enough to possibly offset cantaloupe losses with increased production of pumpkins or other melons, such as watermelon and honeydew. Significant risk remained for growers who were concerned that the Rocky Ford *Listeria* connection would malign produce sales for other produce grown.

Even before the *Listeria* outbreak, Michael Hirakata had been planning to build a new packing shed to enhance his own and other growers' product that shipped out of his operation. Because Michael had well-established broker connections, many of the local growers chose to market product through Hirakata Farms' packing shed. For Hirakata, the timing of this type of capital investment was especially problematic. While none of the farms using Hirakata Farms' packing shed had been a source of contamination, demand for their flagship product was now almost entirely unknown for the upcoming season. Moreover, it was determined that poor post-harvest handling practices were a key cause in bacterial growth on cantaloupes from Jensen Farms. Investing in new packing shed technology without up-to-date phytosanitary safeguards that averted another outbreak could be equivalent to financial suicide. The lender working with Hirakata Farms would need proof of new food safety protocols to secure the loan. Simply put, Hirakata was being forced to make high-stakes decisions about the farm's future in a financially and agronomically volatile situation. His family farm was nearing the century mark and cantaloupes had always been a cornerstone of the business. Hirakata and his fellow growers were genuinely uncertain about how to navigate the chaos following the *Listeria* outbreak. They were farmers and what they liked to do best was grow produce and sell it to a distributor. Restoring consumer confidence in Rocky Ford cantaloupes was well beyond their comfort level.

As soon as the outbreak occurred, Lorna Christie with the Produce Marketing Association (PMA) met with Rocky Ford growers to provide assistance with media inquiries and follow-up public relations training. At the 2012 Colorado Governor's Agricultural Summit, representatives from CDOA met with melon growers to determine their level commitment to revitalizing cantaloupe production in southeast Colorado. The 2012 marketing season was fast approaching and coordination of a marketing campaign required time. February was decision time for the growers, one way or the other. At this meeting, Hirikata and others agreed to

proceed with the project. The growers' decision, however, was by no means assurance of a full marketing recovery. What it really signaled was their commitment to trying to rebuild the Rocky Ford brand. They would need the guidance and assistance of CDOA and outside marketing specialists to help them navigate their way back.

Grower's Choice: A Cautious Yes to Collaborative Recovery Efforts

CDOA moved quickly when Rocky Ford cantaloupes were indicted in the *Listeria* outbreak. They were especially motivated to assist Rocky Ford melon growers for three primary reasons. The first was CDOA's concern with the halo effect, which speaks to individuals' impression of a product—whether good or bad—based on product perceptions and/or information. In the Rocky Ford melon context, the CDOA wanted to dispel negative impressions of Colorado melons and prevent those opinions from spilling over into the broader categories of Colorado produce, and Colorado agricultural products in general. Case in point: Colorado onion growers had already found that their buyers were sourcing product elsewhere because of product safety concerns associated with Colorado cantaloupes.

A second and related reason was CDOA's concern for the financial ripples caused if Rocky Ford melon growers were unable to recover. Though melon sales contribute a small (0.1 percent) amount to Colorado's $7 billion agricultural industry, CDOA estimated Rocky Ford melons contribute $20 million to the local economy. In the interest in regional economic sustainability, the failure of Rocky Ford melon growers would have a significant financial ripple effect. The visibility and viability of the state's produce sector was also of concern. Annually, the Colorado produce sector generates approximately $500 million and the failure of Rocky Ford's melon growers would result in a 20 percent reduction in category revenue. Finally, the state recognized the contribution of melons to the greater southeast region's cultural identity. While cantaloupe featured prominently in the individual melon grower's mix, it was also a defining feature of the community. Recall the the Meloneer, Rocky Ford High School's mascot. From the CDOA's perspective, the perceived risks were both financial and cultural in nature.

Tom Lipetzky is CDOA's Director of Marketing Programs and Strategic Initiatives. When Rocky Ford cantaloupe was first indicted in the *Listeria* outbreak, Lipetzky helped mobilize resources with which to assist Rocky Ford melon growers. Having worked previously in the livestock sector with marketing fall-out from mad cow cases, Lipetzky was already familiar with the process of recovering consumer confidence after a food safety crisis. And while Lipetzky took the lead on coordinating the cantaloupe revitalization project, he also relied heavily on other individuals both inside and outside the department. Among his first tasks was to approach Colorado's then-Commissioner of Agriculture John Salazar to request use of departmental discretionary funds which Salazar quickly approved.

Relatively speaking, the contaminated product had been identified in short order. The speed with which agencies responded in the Rocky Ford *Listeria* outbreak was notable. Out of sheer novelty though, the number of state and federal agencies working together developed its own learning curve. Even in the early stages of the investigation, there were administrative

limitations despite everyone's best intentions. For example, FDA and Commissioner Salazar were unable to speak directly about the outbreak because there was no confidentiality agreement in place. However, there was one in place with a CDOA division director who stepped in to facilitate information flows. One of realizations for both CDOA and FDA was the presence (absence) of procedural processes that enhanced (detracted) the efficacy of crisis response.

A great deal of work remained, though, even after Jensen Farms had been identified. The balance of the recovery process would highlight additional opportunities for streamlining administrative processes associated with helping Rocky Ford growers. One of the specific challenges facing CDOA was side-stepping the lengthy delays associated with putting a project out to bid and procuring state government contracts. To this end, Commissioner Salazar's support was both necessary and genuine.

The Sum of the Parts

The revitalization project was thoughtful and well-organized in both scale and scope. Proposed resources allotted to the "Cantaloupe Revitalization Project" included the following:

- Consumer research to identify consumer awareness of the *Listeria* outbreak and key food-safety issues to be addressed to win consumers back.
- Using consumer research findings for development of a comprehensive marketing strategy. The marketing strategy would provide for (1) establishment of a growers association with clear membership requirements and brand licensing protocols, (2) creation of a new brand strategy, positioning, and identity, (3) implementation of a three-phase marketing and communication campaign to consumers that coordinated with production seasonality (pre-, in-, and post-season marketing).
- CDOA retention of marketing specialists from The BrandWerks Group, LLC , Mulligan & Associates, and the consumer research firm of Focus Research & Strategy, Inc.
- A $200,000 commitment from the Agriculture Management Fund, approved by Commissioner Salazar.

While each piece of the project was critical, findings from the consumer research would drive the marketing strategy. Focus Research & Strategy, Inc., was charged with identifying how much and what kinds of information consumers had about the outbreak. In addition, Focus Research & Strategy sought to gauge what efforts could be undertaken to restore consumer confidence. Summary results presented to CDOA are provided in Exhibit E. By mid-April, Focus Research & Strategy was able to share consumer research findings with CDOA and growers. They had surveyed 432 Colorado consumers aged 25-65 through online surveys. Survey participants were identified through grocers' eRewards program participation and identified themselves as heads of household responsible for grocery purchases.

Survey results indicated the following about consumers' awareness of the situation:

- 92 percent of those surveyed reported familiarity with the cantaloupe crisis. Consumers' recognition of cantaloupe was especially high compared to their recall of other produce outbreaks.
- 84 percent could identify *Listeria* specifically as the source of cantaloupe contamination with 66 percent identifying a broader "bacteria" cause.
- 89 percent of respondents identified Colorado cantaloupes as the culprit.
- 55 percent recognized the contaminated cantaloupes as having come from Rocky Ford.
- 50 percent recognized a single Colorado farmer as the source of contamination.

Consumers' level of awareness was surprising to both CDOA and the growers. The findings revealed that Rocky Ford cantaloupe brand recognition was on par with other Colorado produce legacy brands, such as Palisades peaches and Olathe sweet corn. Consumers' familiarity of Rocky Ford cantaloupes had likely worked against them in the sense that strong brand recognition resulted in higher, and more detailed, recall of the *Listeria* outbreak. This information alone caused even greater concern for growers who still lacked confidence in the marketing recovery of Rocky Ford melons.

Re-Engaging Consumers in the Produce Aisle

So far the consumer research had confirmed the worst for Rocky Ford growers—consumers had both breadth and depth of information about the cantaloupe outbreak. Simply put, they linked the *Listeria* outbreak directly to Rocky Ford. There could be no hiding behind a bigger production umbrella shared by more growers or diffusing the outbreak across a larger geographic area. Rocky Ford cantaloupes were the culprit. Rocky Ford growers still lacked confidence in a successful cantaloupe recovery. Though diversified, cantaloupes were a significant crop in growers' respective operations. The CDOA had graciously mobilized resources to assist growers, but ultimately growers had to be convinced they could restore consumer confidence.

Fortunately, the consumer research also queried consumers about their intent to purchase Colorado cantaloupes again. Survey results suggested consumer confidence could be won back by:

- Developing and implementing new food safety protocols. The protocols themselves necessitated sizable capital investment beyond current processing plant conditions.
- Re-building the Rocky Ford brand.
- Increasing visibility and knowledge of individual farms, including face-to-face interactions and an understanding of on-farm practices.
- Coordinating marketing efforts across media venues, at point of sale, and by growers and CDOA.

Hurdle No. 1: Additional Food Safety Practices
Food safety was now a critical and necessary first component to the Rocky Ford melon recovery story for two reasons. Asked about actions growers could take that would encourage Rocky Ford cantaloupe purchase, respondents' top preferences were:

- 44 percent: Implementation of additional safety measures self-administered by growers.
- 44 percent: CDOA certification.
- 37 percent: Use of a CDOA-approved safe-practices seal at point of sale.
- 35 percent: Use of a CDOA-approved safe-practices seal on individual cantaloupe products.
- 35 percent: FDA certification.
- 33 percent: Independent third-party audit.

The upside of such feedback was that it was very specific. It gave the growers very concrete suggestions as to how they could win back consumers with respect to food safety. While growers were already subject to independent audits, consumers might not have known that. In addition, their request for multiple certifications introduced a much higher level of administrative oversight, albeit motivated by precaution.

The research indicated that 16 percent of consumers believed Rocky Ford cantaloupes were safe to eat in 2012. More importantly, 58 percent were undecided as to their safety, suggesting an opportunity for growers to influence the purchase decision with grower action. The Rocky Ford brand had suffered greatly and the critical piece to its revival was food safety assurance.

Hurdle No. 2: Rebuilding the Rocky Ford brand
Rebuilding the Rocky Ford brand would, actually, finally require formal branding. Despite a century of positive recognition of the unofficial brand, there had been no formal growers association, much less a coordinated logo, labeling, or marketing effort.

The irony that the contaminated melons had not even come from a Rocky Ford farm was not lost on Rocky Ford growers. Jensen Farms, along with most other local melon growers, had used the Rocky Ford "brand" to leverage the price premium. As a result, Rocky Ford melons had not only been implicated, but indicted. This was a clear rebranding issue for a product that was not actually a Rocky Ford product. Should Rocky Ford growers include this information in future marketings? Growers felt maligned, but would consumers view that move that as retaliatory or informative? Survey results suggested that, despite knowing Jensen Farms was not from Rocky Ford, consumers wanted new safety protocols and measureable standards. Consumer takeaway was that geography alone couldn't mitigate the possibility of another outbreak. They wanted to see science-based protocols enacted.

Ultimately, rebranding efforts would only be effective if growers could restore consumer confidence and if the brand became valuable again through increases in product demand. Yet

demand assessment was virtually impossible without well-organized and thoughtful consumer feedback as proposed by Lipetzky in the cantaloupe revitalization project. Regarding future cantaloupe purchase intent, the survey found that 86 percent intended to buy cantaloupes in 2012, though only 44 percent indicated they would buy Colorado cantaloupe. Thirty-seven percent of respondents indicated they would buy Colorado cantaloupe if their grocer stocked them, suggesting a small reliance on grocers as a credible food safety gatekeeper. Finally, 26 percent took a cautious wait-and-see approach, indicating they would decide about Colorado cantaloupe purchases. From this, growers were able to find a small group that was highly supportive of their brand. Their willingness to continue buying Rocky Ford cantaloupes in 2012 was a strong vote of confidence, but was 44 percent enough? The key was whether the growers believed they could win back the grocers, whose choice to carry would in turn influence consumers, including the more cautious wait-and-see consumers. Ultimately, the survey findings presented a second round of decision-making: Were growers willing to participate in the 2012 cantaloupe marketing season with so little demand data available?

Hurdle No. 3: Getting to Know the Growers

A second way in which growers needed to re-establish consumer confidence was through direct farmer-to-consumer messages. One of the problems, though, was that implementation and delivery of a carefully orchestrated marketing campaign were well beyond the affinities of the grower group. One of CDOA findings was that consumers wanted more communication with growers directly. They wanted a clearer sense of production practices as well as a personal connection with growers. The challenge was that, by nature, growers are most knowledgeable about production practices and marketing one level down the supply chain to distributors. Retail marketing practices were wholly unfamiliar to growers because they'd previously had no need to dedicate resources there. CDOA offered media training for growers to soften their concerns about having to be more personally visible.

Hurdle No. 4: Coordinated marketing efforts

Development of a formal grower association and logo would present a united and coordinated front for communication amongst producers, distributers, and consumers. The kind of marketing tools the growers were facing would certainly offer greater coordination but it would also present additional administrative overhead. Moreover, the growers knew that with increased administrative oversight came a steep learning curve and time cost.

For Rocky Ford growers, the marketing recovery effort would depend heavily on successfully meeting each of the four challenges.

Discussion Questions

1. The Rocky Ford cantaloupe outbreak was unique in that it involved stakeholders at all levels: federal, state, and local. What types of challenges might you anticipate in both the crisis management and recovery phases?

2. For better or worse, growers are often relatively autonomous business managers who like the appeal of a small number of owners/managers in the decision-making process. The creation of a formal growers association necessitates a high degree of collaborative marketing. Growers would need to shift considerable effort and resources away from production toward marketing. Individually and at the grower association level, how might this re-alignment of resources, including human and financial capital, be facilitated? Discuss the benefits and risks of pooling the area's largest growers under a single, formal brand. What is necessary for brand and association success and viability?

3. Should Rocky Ford growers include information that they were not specifically to blame in the 2011 outbreak in future marketing? Growers felt maligned following the crisis, but would consumers view that move that as retaliatory or informative?

4. The number of fatalities associated with the 2011 *Listeria* outbreak highlights the need for staying ahead of food safety risk. For Rocky Ford cantaloupe growers, a successful recovery necessitated winning back consumer confidence along food safety issues. How might the Rocky Ford Growers Association temper unknown but potential risks and communicate such efforts to consumers?

5. The Colorado Department of Agriculture took a leadership role in mobilizing resources for growers following the *Listeria* outbreak. Imagine that you are Colorado Department of Agriculture's Tom Lipetzky and only a small number of the 12-15 Rocky Ford melon growers are willing to stay in the melon business for 2012. How many growers are enough to dedicate this breadth and depth of state resources? What arguments might you use to encourage additional growers to stay in production?

Timeline of Events: Multistate Outbreak of Listeriosis Linked to Whole Cantaloupes from Jensen Farms in Colorado—United States, 2011

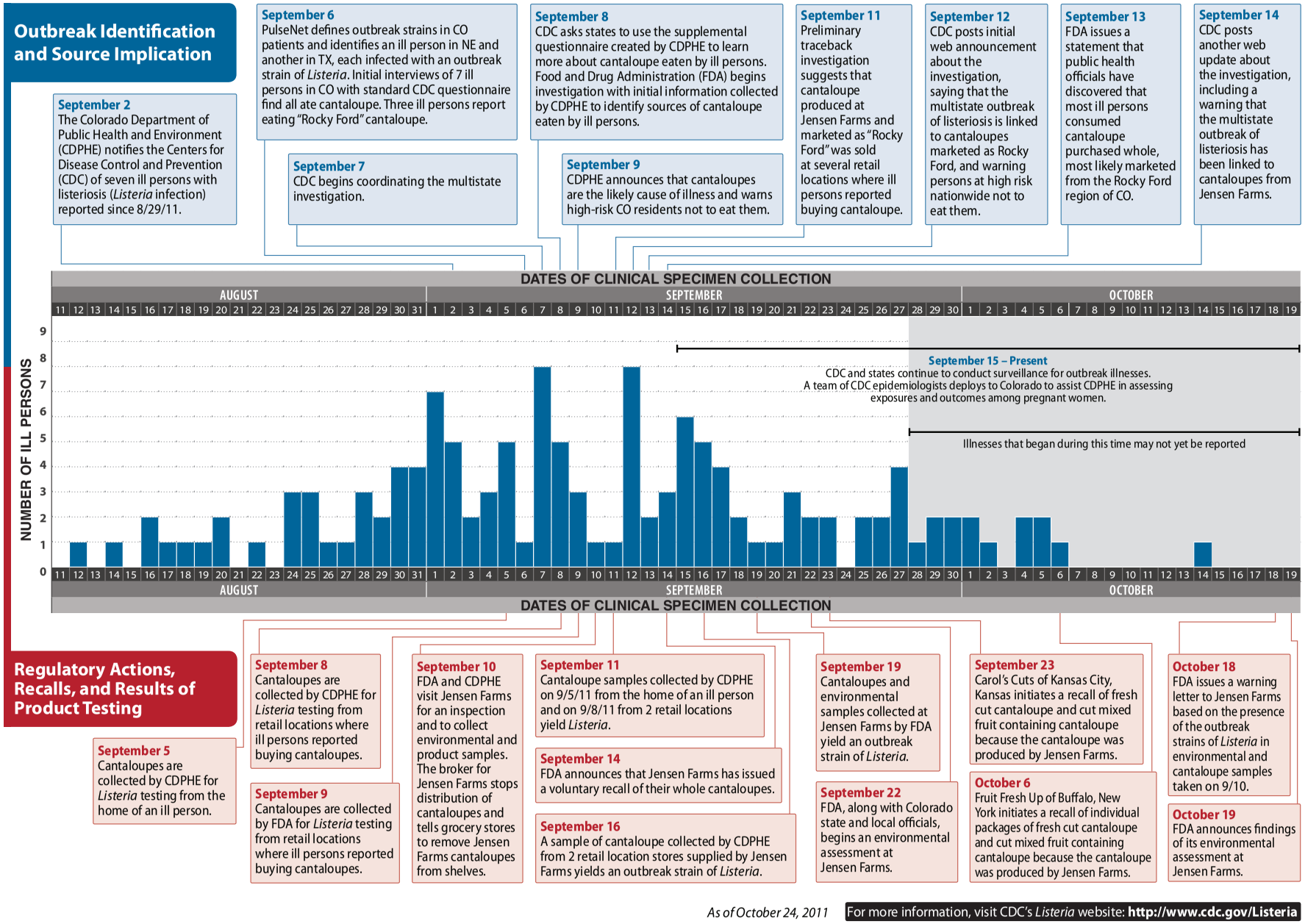


Exhibit A. Centers for Disease Control, Timeline of Events

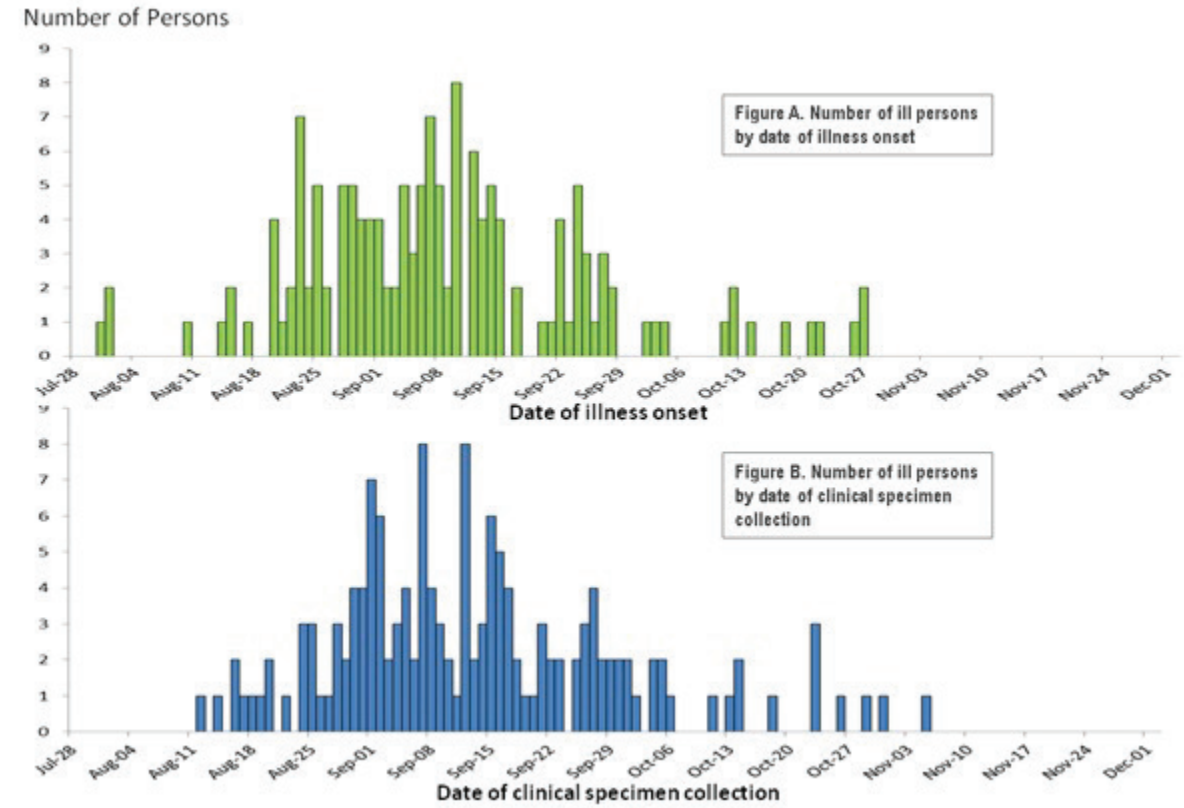


Exhibit B. Centers for Disease Control, Epicurve

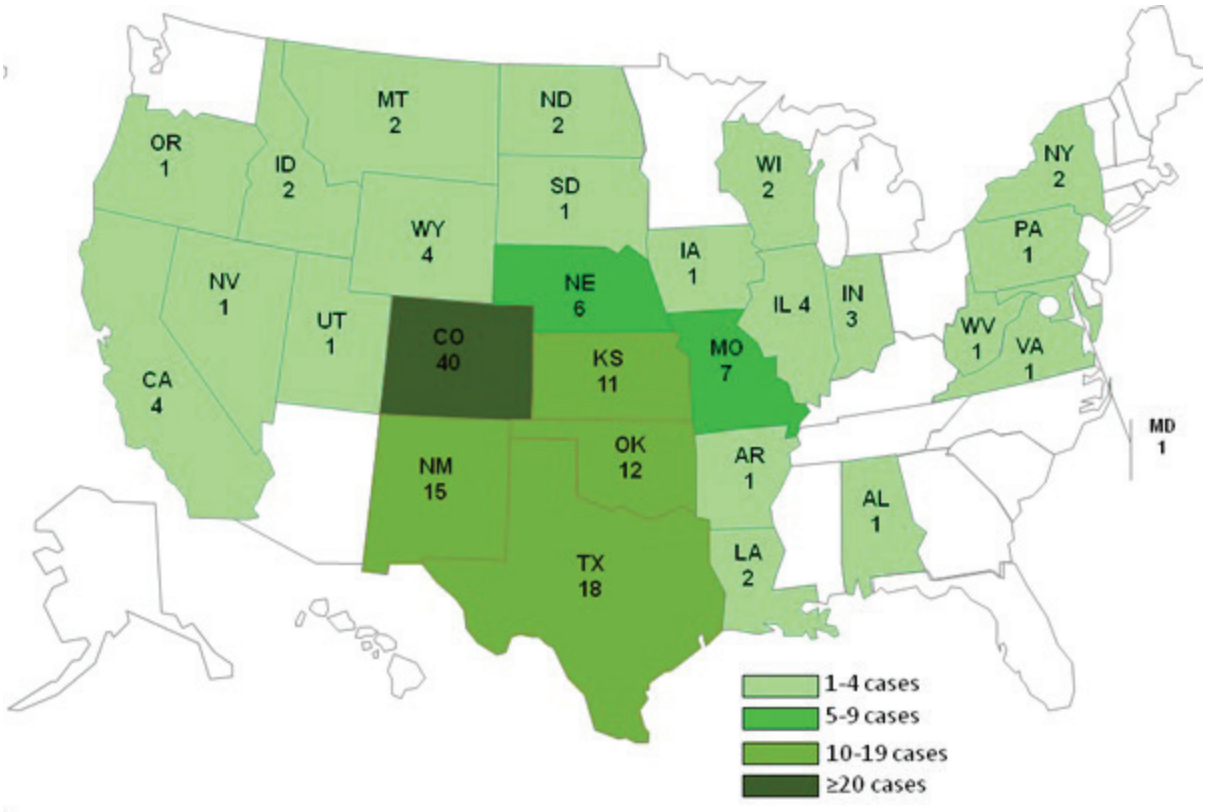


Exhibit C. Centers for Disease Control, Map

Multistate Outbreak of Listeriosis Linked to Whole Cantaloupes from Jensen Farms, Colorado

Note: The final update for the investigation was published online on December 8, 2011. CDC has published this addendum to provide updated final numbers of outbreak-associated illnesses and deaths.

Introduction

CDC collaborated with public health officials in numerous states, including Colorado, as well as the U.S. Food and Drug Administration (FDA) to investigate a multistate outbreak of listeriosis that occurred from August through October, 2011. Listeriosis is a serious infection usually caused by eating food contaminated with the bacterium Listeria monocytogenes. Investigators used DNA analysis of Listeria bacteria isolated from patients to identify cases of illness that may have been part of this outbreak. The Listeria bacteria were obtained from diagnostic testing; pulsed-field gel electrophoresis (PFGE) was used to determine DNA fingerprint patterns. Investigators used data from PulseNet, the national subtyping network made up of state and local public health laboratories and federal food regulatory laboratories that performs molecular surveillance of foodborne infections.

After the final update on December 8, investigators learned that a Listeria isolate that had been isolated from a sample of cut cantaloupe from a patient's home during the outbreak investigation had a PFGE pattern combination that was different from the four known pattern combinations in the outbreak. A search of the PulseNet database for matching DNA fingerprint patterns from isolates collected during the outbreak time period identified one human matching isolate. The person from whom the Listeria was isolated reported eating cantaloupe before becoming ill; this case was added to the case count.

A total of 147 persons infected with any of the five outbreak-associated subtypes of Listeria monocytogenes were reported to CDC from 28 states. The number of infected persons identified in each state was as follows: Alabama (1), Arkansas (1), California (4), Colorado (40), Idaho (2), Illinois (4), Indiana (3), Iowa (1), Kansas (11), Louisiana (2), Maryland (1), Missouri (7), Montana (2), Nebraska (6), Nevada (1), New Mexico (15), New York (2), North Dakota (2), Oklahoma (12), Oregon (1), Pennsylvania (1), South Dakota (1), Texas (18), Utah (1), Virginia (1), West Virginia (1), Wisconsin (2), and Wyoming (4).

Among persons for whom information was available, reported illness onset ranged from July 31, 2011 through October 27, 2011. Ages ranged from <1 to 96 years, with a median age of 78 years. Most ill persons were over 60 years old. Fifty-eight percent of ill persons were female. Among the 145 ill persons with available information on whether they were hospitalized, 143 (99%) were hospitalized. Thirty-three outbreak-associated deaths were reported: Colorado (9), Indiana (1), Kansas (3), Louisiana (2), Maryland (1), Missouri (3), Montana (1), Nebraska (1), New Mexico (5), New York (2), Oklahoma (1), Texas (2), and Wyoming (2). Among persons who died, ages ranged from 48 to 96 years, with a median age of 81 years. In addition, one woman pregnant at the time of illness had a miscarriage. Ten deaths not attributed to listeriosis

Exhibit D. Centers for Disease Control, Final Report, December 8, 2011

occurred among persons who had been infected with an outbreak-associated subtype. State and local public health officials reviewed causes of death listed on death certificates to determine whether to attribute these deaths to listeriosis. Deaths included in this review occurred as recently as February 29, 2012.

Seven of the illnesses were related to a pregnancy; three were diagnosed in newborns and four were diagnosed in pregnant women. One miscarriage was reported.

The outbreak can be visually described with a chart showing the number of persons who became ill each day. This chart is called an epidemic curve or epi curve. Please see the description of the steps in a foodborne outbreak investigation for more details.

About 800 laboratory-confirmed cases of Listeria infection are reported each year in the United States and typically 3 or 4 outbreaks are identified. The foods that typically cause these outbreaks have been Mexican-style soft cheeses made with unpasteurized milk, deli meats, and hot dogs. In the past, produce was not often identified as a source, but sprouts caused an outbreak in 2009, and precut celery caused an outbreak in 2010.

Investigation of the Outbreak

Collaborative investigations by local, state, and federal public health and regulatory agencies indicated that the source of the outbreak was whole cantaloupe grown at Jensen Farms' production fields in Granada, Colorado. Among the 144 ill persons with available information on what they ate, 134 (93%) reported consuming cantaloupe in the month before illness onset. Several ill persons remembered the type of cantaloupes they had eaten and said they were Rocky Ford cantaloupes, which are grown in the Rocky Ford region of southeastern Colorado. Source tracing of the cantaloupes that ill persons ate indicated that they came from Jensen Farms, and were marketed as being from the Rocky Ford region. These cantaloupes were shipped from July 29 through September 10 to at least 24 statesExternal Web Site Icon , with possible further distribution.

The Colorado Department of Public Health and Environment isolated Listeria monocytogenes from cantaloupe samples collected from grocery stores and from ill persons' homes. Colorado state officials determined that these cantaloupes came from Jensen Farms. FDA External Web Site Icon isolated Listeria monocytogenes outbreak subtypes from samples from equipment and cantaloupe from the Jensen Farms' packing facility in Granada, Colorado. FDA worked closely with CDC, the firms involved, and public health authorities in states where illnesses occurred to determine the cause of contamination. Cantaloupes from other farms were not linked to this outbreak.

Clinical Features/Signs and Symptoms

Listeriosis is a serious infection caused by eating food contaminated with the bacterium Listeria monocytogenes. The disease primarily affects older adults, persons with weakened

Exhibit D. Centers for Disease Control, Final Report, December 8, 2011

immune systems, pregnant women, and newborns. Less commonly, persons without these risk factors can be affected.

A person with listeriosis usually has fever and muscle aches, often preceded by diarrhea or other gastrointestinal symptoms. Almost everyone who is diagnosed with listeriosis has invasive infection (meaning that the bacteria spread from their intestines to the bloodstream or other body sites).

Listeriosis is treated with antibiotics. Persons in the high-risk category, including older adults, persons with weakened immune systems, and pregnant women, who experience flu-like symptoms within 2 months after eating contaminated food should seek medical care and tell the physician or health care provider about eating the contaminated food.

The symptoms vary with the infected person:

- **High-risk persons other than pregnant women:** Symptoms can include fever, muscle aches, headache, stiff neck, confusion, loss of balance, and convulsions.
- **Pregnant women:** Pregnant women typically experience only a mild, flu-like illness. However, infection during pregnancy can lead to miscarriage, stillbirth, premature delivery, or life-threatening infection of the newborn.
- **Healthy persons:** Healthy persons occasionally develop invasive listeriosis. In addition, persons exposed to a very large dose of Listeria bacteria can develop a non-invasive illness (meaning that the bacteria do not spread into their blood stream or other sites) with diarrhea and fever.

If a person has eaten food contaminated with Listeria bacteria and does not have any symptoms, most experts believe that no tests or treatment are needed, even for persons at higher risk for listeriosis.

More general information about listeriosis can be found at the CDC's Listeriosis webpage.

Recall

On September 14, 2011, FDA issued a press release External Web Site Icon to announce that Jensen Farms issued a voluntary recall of its Rocky Ford-brand cantaloupes after they were linked to a multistate outbreak of listeriosis. On September 23, 2011, FDA issued a press release External Web Site Icon to announce a recall from Carol's Cuts LLC, a Kansas food processor. The company recalled 594 pounds of fresh-cut cantaloupe, which were packaged in 5-pound trays as chunks and as an ingredient in an 8-ounce mixed fruit medley, because the cantaloupes originated from Jensen Farms. On October 6, FDA posted a press release External Web Site Icon that announced a recall from Fruit Fresh Up, Inc., a New York food processor. The company recalled 4,800 individual packages of fresh cut cantaloupe and cut mixed fruit

containing cantaloupe, because the cantaloupe originated from Jensen Farms. The fresh cut fruit subject to this recall was sold between August 31 and September 11, 2011.

Advice to Consumers

This outbreak is over. However, Listeria is still an important cause of human illness in the United States.

Who is most at risk?

- Listeriosis primarily affects older adults, persons with weakened immune systems, pregnant women, and newborns.
- Persons who think they might have become ill from eating contaminated food should consult their doctor immediately if they have symptoms. People can develop listeriosis up to two months after eating contaminated food.
- Recommendations for preventing listeriosis from foods other than cantaloupes are available at CDC's Listeriosis webpage on prevention.

For more information about listeriosis and recommendations to reduce your risk of getting listeriosis go to CDC's Listeriosis webpage on prevention.

For more information on produce safety go to FDA's Produce Safety webpage

Exhibit D. Centers for Disease Control, Final Report, December 8, 2011

National Enteric Disease Surveillance: *Listeria* Annual Summary, 2011

Listeria Initiative Data

An overview of the *Listeria* Initiative surveillance system is available at http://www.cdc.gov/nationalsurveillance/listeria_surveillance.html.

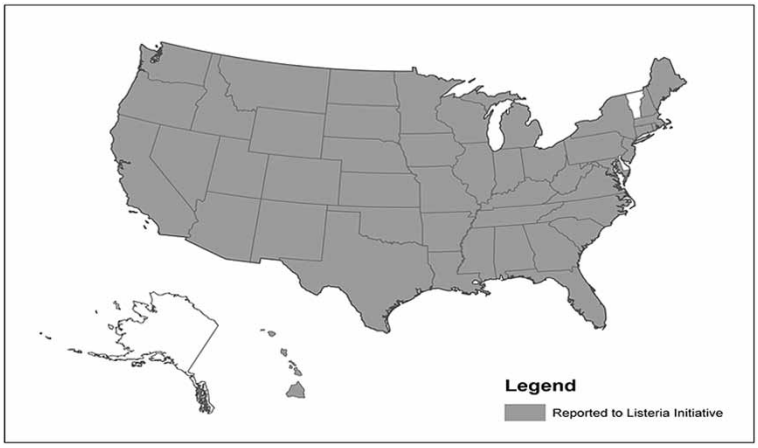
For this report, a case of invasive listeriosis is defined as isolation of *Listeria monocytogenes* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF]) or from products of conception (e.g., amniotic fluid, placental or fetal tissue). For cases in which *L. monocytogenes* is isolated from multiple anatomical sites, the case is considered to be invasive if any isolate is obtained from a normally sterile site. For cases in which *L. monocytogenes* is isolated from multiple normally sterile anatomical sites, the annual summary reports the most invasive site, using a hierarchy (in descending order of invasiveness: CSF, bone or joint fluid, blood, other sterile site, and other products of conception).

Each mother-infant pair in episodes of pregnancy-associated listeriosis is reported as a single case, even when clinical isolates are obtained from both the mother and the infant. The rationale is that an episode of pregnancy-associated listeriosis inherently involves both the mother and the infant, because the infant's infection, in most if not all cases, occurs because the mother ate contaminated food. Cases are classified as pregnancy-associated if illness occurs in a pregnant woman or infant ≤28 days old; all other cases are considered to not be associated with pregnancy.

States reporting at least one listeriosis case to the *Listeria* Initiative during 2011 are shown in Figure 1.

- Forty-seven states reported 621 listeriosis cases in 2011.
  - » 590 (95%) cases were invasive
    - ▪ 533 (90%) were not pregnancy-associated
    - ▪ 57 (10%) were pregnancy-associated
  - » 13 (2%) cases were non-invasive
  - » 18 (3%) report forms did not have enough data to categorize the case

Figure 1. States reporting at least one case of listeriosis to the *Listeria* Initiative, 2011 (n=47)*,†



*Reporting states are indicated in gray

†Three states and the District of Columbia reported no cases to the Listeria Initiative in 2011.

Non-invasive cases and reports that did not have enough data to categorize the case were excluded from the subsequent analyses.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne Waterborne, and Environmental Diseases

January 2013 CS237579-D

Exhibit E. Centers for Disease Control, Annual *Listeria* Summary, 2011

National Enteric Disease Surveillance: The *Listeria* Initiative

Surveillance System Overview: The Listeria Initiative

Listeria monocytogenes is estimated to cause nearly 1,600 illnesses each year in the United States; more than 1,400 related hospitalizations and 250 related deaths occur (1). *Listeria* infections (listeriosis) are nationally notifiable. Nearly all cases of listeriosis in persons who are not infants result from eating food contaminated with *L. monocytogenes*; newborn infants can develop listeriosis if their mother ate contaminated food during pregnancy.

The *Listeria* Initiative is an enhanced surveillance system that collects reports of laboratory-confirmed cases of human listeriosis in the United States. Demographic, clinical, laboratory, and epidemiologic data are collected using a standardized, extended questionnaire. The *Listeria* Initiative was piloted in the Foodborne Diseases Active Surveillance Network (FoodNet) in 2004 and implemented nationwide in 2005. The number of jurisdictions participating in the Listeria Initiative increased from 10 in 2004 to 42 by 2010. The proportion of all listeriosis cases reported to the *Listeria* Initiative continues to increase.

A main objective of the *Listeria* Initiative is to aid in the investigation of listeriosis clusters and outbreaks by decreasing the time from outbreak detection to public health intervention. Patient interviews are conducted as cases are reported, rather than after clusters are identified, to minimize the effect of recall bias on food consumption history. In addition, clinical, food, and environmental isolates of *L. monocytogenes* are subtyped using pulsed-field gel electrophoresis (PFGE, a type of DNA fingerprinting). PFGE results are submitted to PulseNet, the National Molecular Subtyping Network for Foodborne Disease Surveillance, to identify clusters of possibly related cases. When clusters are identified, *Listeria* Initiative data are used to rapidly conduct epidemiological analyses. The food consumption histories of patients with cluster-associated illnesses are compared with those of patients with sporadic illnesses to identify foods possibly associated with the cluster. Without the *Listeria* Initiative database, appropriate comparison data ("controls") for listeriosis investigations would be difficult to obtain through traditional methods; the population at risk for invasive listeriosis—older adults, immunocompromised persons, and pregnant women—is a small segment of the general population.

Local, state, and territorial public health professionals are encouraged to complete the *Listeria* Initiative questionnaire for all cases of laboratory-confirmed listeriosis. English and Spanish versions of the questionnaire are available at http://www.cdc.gov/nationalsurveillance/listeria_surveillance.html. All *Listeria* isolates should continue to be forwarded promptly to state or national laboratories for PFGE subtyping.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne, and Environmental Diseases

August 2014

Exhibit F. Centers for Disease Control, *Listeria* Initiative

***LISTERIA* CASE FORM** Completed by _____ Date completed _____

Form Approved
OMB No. 0920-0004

BOX 1: CASE-PATIENT INFORMATION

Case-patients = adults and children >1 month of age. For fetal or neonatal infections, the MOTHER is the case-patient.

Patient's name: _____ **Surrogate's name:** _____
Patient's street address: _____
City: _____ **State:** _____ **Zip:** _____
Phone numbers: (h) _____ **(w)** _____ **(m)** _____
Hospital name(s): _____ **Hospital contact name(s):** _____
_____ _____
Hospital contact numbers: _____ _____ _____

----------*detach here to remove personal identifiers if necessary*

Sex: ☐ M ☐ F
State of residence: ___ ___
Age: _____
DOB: ____/____/_____

Ethnicity (*check one*):
☐ Hispanic/Latino
☐ Non-Hispanic/Latino
☐ Unknown

Race (*check all that apply*):
☐ African American/Black
☐ Asian
☐ Native Hawaiian or Other Pacific Islander
☐ Native American/Alaska Native
☐ White
☐ Unknown

State or local epi case ID: _____
CDC outbreak (EFORS) ID: _____

BOX 2: IS *LISTERIA* CASE ASSOCIATED WITH PREGNANCY? (Illness in pregnant woman, fetus, or neonate ≤1 month)

☐ Yes ***If yes, skip to Box 4.***
☐ No ***If no, continue with Box 3.***
☐ Unknown ***If unknown, continue with Box 3.***

BOX 3: CASES NOT ASSOCIATED WITH PREGNANCY (Illness in non-pregnant adults and children > 1 month of age)

Type(s) of specimen(s) that grew *Listeria* (*check all that apply*)	**Specimen collection date**	**Submitting Lab (state, city, county)**	**State Public Health Lab Isolate ID Number (*important: must have at least one*)**
☐ Blood	____/____/____		
☐ CSF	____/____/____		
☐ Stool	____/____/____		
☐ Other_____	____/____/____		
☐ Other_____	____/____/____		

Type(s) of illness (*check all that apply*)	**Was patient hospitalized for listeriosis?**	**Patient's outcome**
☐ Bacteremia/sepsis	☐ Yes ***If yes:***	☐ Survived
☐ Meningitis	Admit date: ____/____/____	☐ Died
☐ Febrile gastroenteritis	Discharge date: ____/____/____	☐ Unknown
☐ Other_____	☐ Still hospitalized	
☐ Unknown	☐ No	
	☐ Unknown	

Public reporting burden of this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer; 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333; ATTN: PRA (0920-0004).

Please send completed forms to: Enteric Diseases Epidemiology Branch, Centers for Disease Control and Prevention, Mailstop A-38, Atlanta, GA 30333. Fax (404) 639-2205.

Exhibit G. Centers for Disease Control, Listeria Initiative

1

Colorado Department of Agriculture
Quantitative Survey among Cantaloupe buyers in Colorado

Presentation of results
April 13, 2012

2

Quantitative Test Objectives

- Quantify how many Colorado cantaloupe consumers are aware of any health-related issues around cantaloupes from Colorado and Rocky Ford.
- Measure the impact of the Listeria outbreak on future purchase interest of cantaloupes from Rocky Ford.
- Identify best methods/ ideas to convince consumers to buy cantaloupes this summer and in the future.
- Use data as a benchmark for future online tests to track improvements in usage and attitudes toward cantaloupes.

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

3

Respondents

Respondents criteria:

- Sample completed of **n=432** from eRewards online panel
- Heads of households that do the grocery shopping
- Ages 25-65
- Have purchased cantaloupe in the last year.
- Live in Colorado.

4

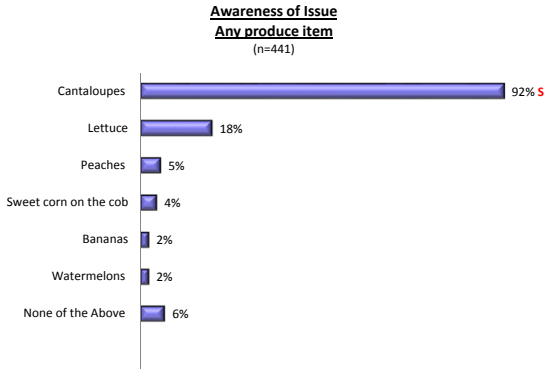
Executive Summary

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

5

People are aware of Cantaloupes making news.

- When asked about produce items making news, 92% of respondents indicate cantaloupes made news in their grocery store or in the media during last summer season, in 2011.
- This is significantly higher than other produce items.



Q14 Did any of the following produce items make news in your grocery stores or in the media (TV, radio, newsprint) during last summer season – in 2011? Check all that apply: *Note: S means this score is significantly higher at the 95% confidence level.*

6

They know:

- **And Colorado grocery shoppers know exactly what the cantaloupe issue was:**
  - 84% of respondents indicated listeria causing deaths.
  - 66% of respondents indicated illness due to bacteria.
  - On an open ended basis, most respondents play back listeria, bacteria, illness, deaths, infection, e coli, salmonella and other disease-related comments centering on cantaloupes.

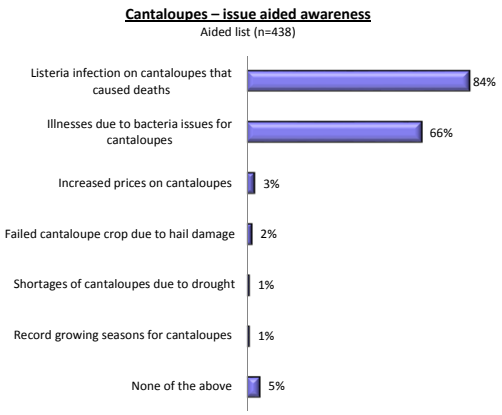
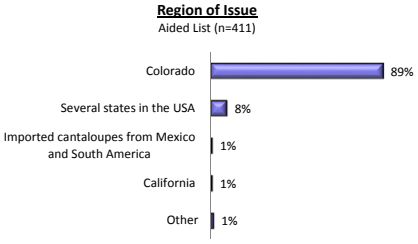


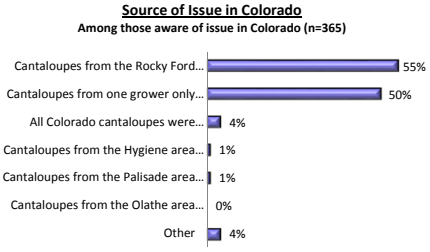
Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

7

And they know from where:

- **Respondents know where it came from:**
  - Among those aware, 89% indicate Colorado.
- **Over half of those aware associate the source with Rocky Ford – 55% on an aided basis.**
  - On an open ended basis, Rocky Ford was mentioned by 24%, which is substantial and indicates top of mind association of Rocky Ford with the cantaloupe issue.
- **And half believe it's one farmer:**
  - 50% state the source as one grower in Colorado.
  - Notably, however, only 2% of open ended comments accurately mention Jensen Farms.

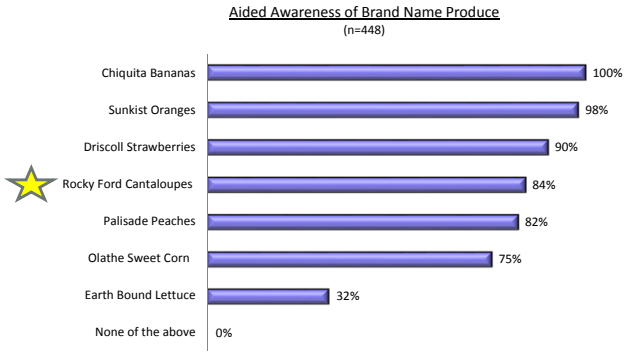




8

Brand awareness of Rocky Ford is very strong in Colorado.

- 84% of grocery shopping respondents are aware of Rocky Ford cantaloupes.
- Awareness of Rocky Ford cantaloupes is on par with Palisade peaches and significantly higher than Olathe corn at the 95% confidence level.



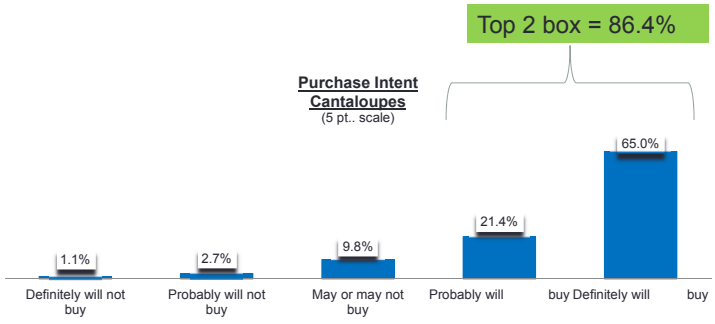
Q 11 Which of the following brand names of produce have you heard of? Check all that apply.

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

9

Strong Purchase Intent

- General purchase interest for cantaloupes is strong – 86% definitely or probably will buy cantaloupes this summer:

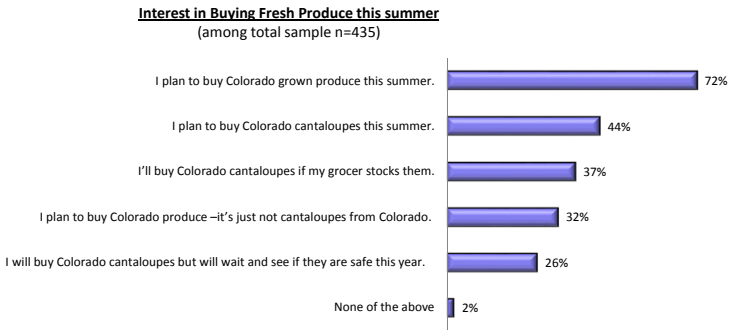


10

Colorado produce is ok, but most are cautious about cantaloupes.

- 72% state they will buy Colorado produce.
- Just not Colorado cantaloupes – only 44% say they will buy CO cantaloupes this summer.

Note: Question is a check all that apply, so there is overlap – respondents are allowed to check more than one answer.



Q19 Which of the following statements are most accurate regarding your interest in buying fresh produce this coming summer season? Check all that apply:

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

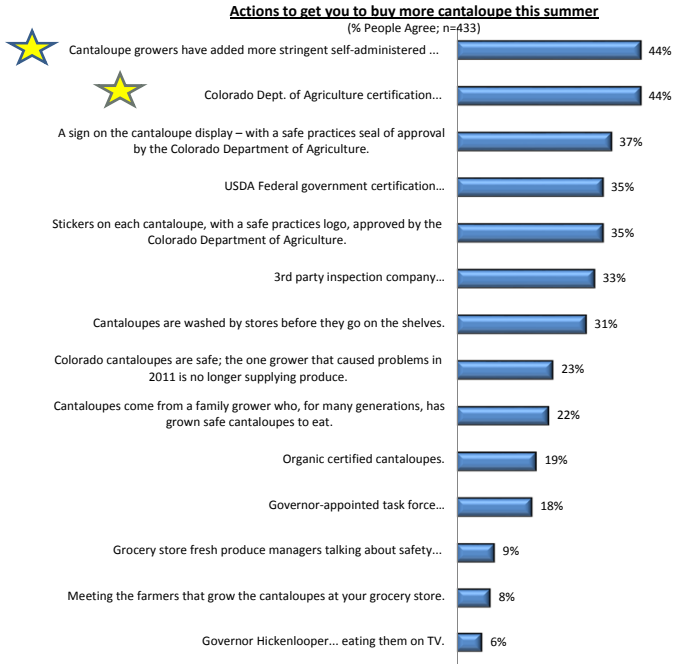
11

But, they can be re-engaged:

Consumers can be re-engaged to buy more Colorado cantaloupes this summer:

Certification from USDA, CDA, 3rd party audits top the list that would get them to buy more.
44% agree that adding new, self-administered safety measures taken by growers is important in getting them to buy more.

Q 20 Which of the following actions would get you to buy more cantaloupes this coming summer? Check all that apply: See appendix for full list of responses.



12

Not trusting Rocky Ford yet

- **Rocky Ford brand needs some work:**
  - Only 16% agree that Rocky Ford cantaloupes are safer to eat than cantaloupes from other regions in CO.
  - 58% are undecided on this issue – in the middle – neither strongly agreeing or disagreeing that Rocky Ford cantaloupes are safe.

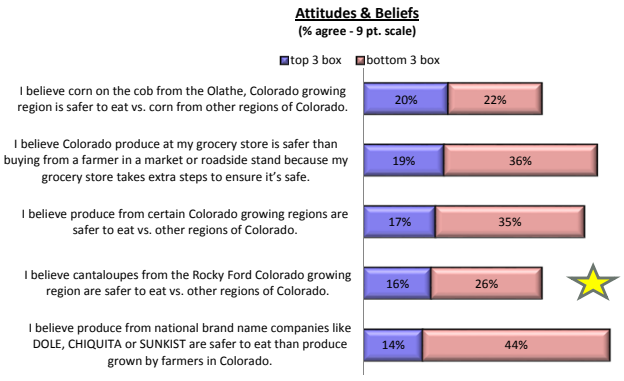


Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

13

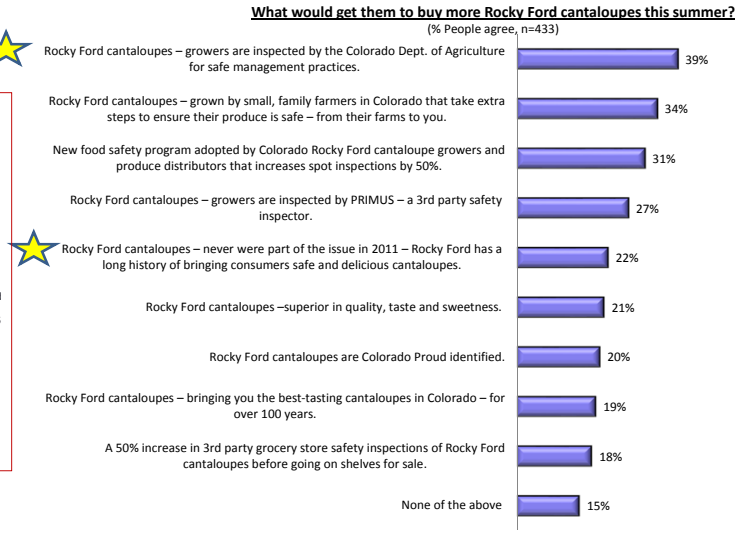
There are actions that would get them to buy more Rocky Ford cantaloupes this summer

Rocky Ford needs some "proof" – new steps they take to rebuild the brand & ensure safety to consumers.

Just saying it was not us, will not be enough.

Audits are the key – 3rd party, CDA, spot audits are of most interest to respondents.

They are also interested in extra steps taken by farmers to ensure safety.



Q 21 Which of the following statements would get you to buy more Rocky Ford, Colorado cantaloupes this coming summer? (Check all that apply):

14

Safety audits from Colorado

- **In terms of re-building trust in produce that's safe to eat – closer to home is more credible.**
  - 46% say organic foods are safe to eat.
  - 42% of people agreed that independent safety approvals would make them believe it's safe.
  - 41% agreed that state approvals would help and only 35% federally approved.

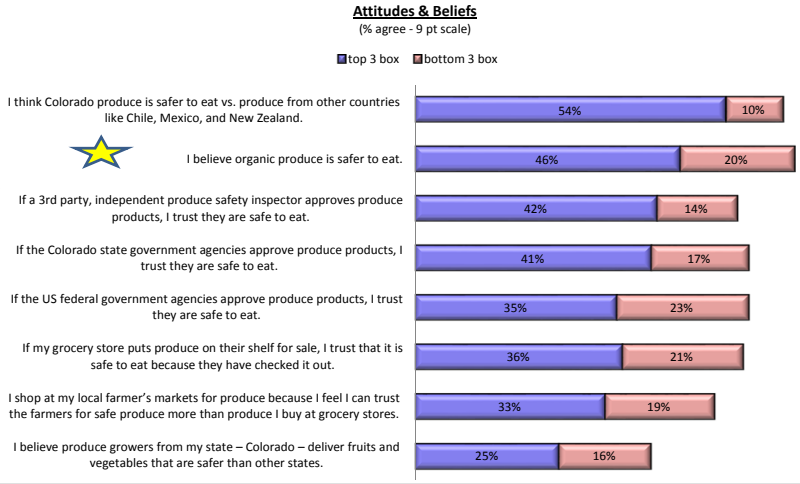
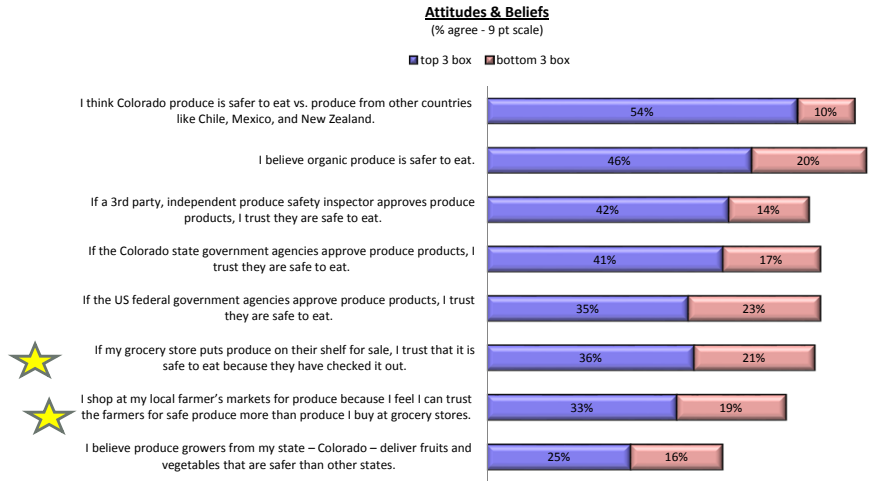


Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

15

Grocery Store endorsement not enough

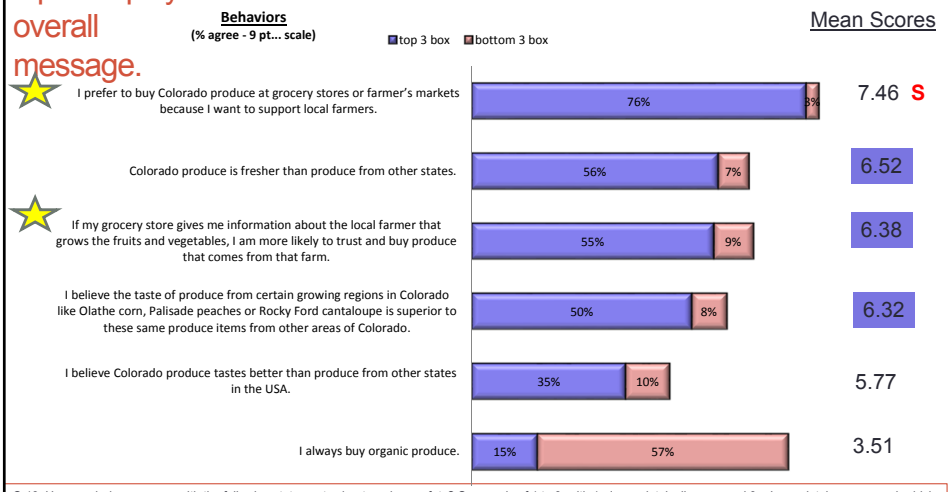
- **Grocery stores have an opportunity to build consumer trust, as well.**
  - 36% believe that if their grocery store stocks an item it's safe because they've checked it out. However, 21% disagree & 43% are in the middle – undecided ground.
  - 33% shop at farmers markets and feel produce is safer vs. grocery stores. However, 19% disagree & 48% are in the middle – undecided.



16

Consumers want local – Colorado has a part to play in overall message.

- Consumers want to support local farmers – 76% agree they prefer to buy Colorado produce.
- And Colorado produce is fresher – 56% agree, however, not necessarily tastes better – 35% agree.
- Notably, only 15% always buy organic, even though many believe it's safer.
- 55% want more local farmer information from grocers, indicating it would increase their trust in produce from that farm. This lack of knowledge on grocery store safety standards might be an opportunity.



Q 13 How much do you agree with the following statements about produce safety? On a scale of 1 to 9, with 1= I completely disagree and 9 = I completely agree, mark which number best represents your actions. N=444
S *means this score is significantly higher at the 95% confidence level. Color coded mean scores are at parity to one another.*

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC

17

Recommendations

Proceed with the brand-building program for Rocky Ford cantaloupes.

- Awareness of the Rocky Ford brand is strong in general.
- However, the safety issue is strongly associated with Rocky Ford by many.

Do something new.

- The same safety measures as last year will not be enough to convince respondents (and likely the media).
- If it happened last year, it could happen again, unless something changes.
- Even though the issue did not originate from Rocky Ford, they don't find that message convincing – they want new standards, measures to ensure safety.
- They want safety assurance from not only farmers but grocery stores, as well.

Build trust by profiling individual farmers/growers – this is for all produce, not just Rocky Ford cantaloupes.

- Knowing it's local and that there's a person/family that stands behind the quality and safety, helps build trust.
- Plus, shoppers want to support local farmers.

Grocery stores should be proactive.

- This lack of knowledge on grocery store safety standards might be an opportunity. Even if it's the same inspection and safety standards, it would be new news to most shoppers.
- There are a lot of grocery shoppers in the middle ground in terms of safety and trust in their grocery stores. Produce does hit the shelves that is tainted, affecting trust in grocers ability to help with safety.
- Continue to profile local farmers.

18

Recommendations

Colorado should take the lead in safety and tout its fresh produce.

- Consumers want to buy local, but cantaloupes affected trust in Colorado produce vs. other states.
- State-led audits lend credibility to safety of produce.
- Many consumers believe Colorado produce is fresher, tastes better from some regions & if they knew Colorado took extra steps to ensure safety, it would build demand for all state produce.

Get ready for the media – on two fronts:

- When cantaloupes from Rocky Ford and Colorado hit the shelves, members of the media will wonder what is new and different vs. last year.
- If there is another issue on any fresh produce item grown in Colorado or on Colorado grocery store shelves from another state, a communications plan would be useful to inhibit "false" information – as in tying the cantaloupe issue to Rocky Ford. By managing the message up front, mis-information is avoided.

Weigh pros and cons of a "consumers should wash more" message.

- The primary message to consumers in 2012 should be about new safety measures for cantaloupes and all Colorado produce. Secondly, the consistent quality & superior taste of Rocky Ford cantaloupes.
- Educating consumers to wash fruit, the outside of vegetables, etc. is excellent practice, however, not at the expense of extra, new safety measures.
- Consumers are looking to the state as a watchdog & while washing fruit is a good practice, consumers may wonder, "What if I don't wash it long enough? Will I get sick because of safety issues?"
- We need to re-assure consumers produce is safe and not rely on them to wash it perfectly to protect themselves and their family. This message could be a double-edged sword of sorts.

Exhibit G. Summary Results, Consumer Surveys Conducted by the BrandWerks Group, LLC