

## Cantaloupes: Food Safety Priorities Meeting

San Diego, CA

January 11, 2012

### OUTCOMES: KEY KNOWLEDGE GAPS THAT NEED IMMEDIATE-TERM AND LONG-TERM ACTIONS

#### Summary:

- Can we develop “kill” steps? Is rind-surface reduction of pathogens sufficient even if not a 100% “kill” step? What current and novel interventions can be used?
  - What information is required to balance effectiveness and practicality?
  - Development of validation-study guidance specific to netted melons?
  - Can a consensus performance standard for a “kill step” be developed and adopted?
  
- Prevalence of *Listeria monocytogenes* across supply chain, geographic regions, seasons and the influence of specific practices?
  - Baseline information – fulfills both research/regulatory needs for direction in longer-term response
  - Prevalence data can be used to build risk models and focus resources for interventions
  - Growth and pathogen transference in preharvest and postharvest environment?
  
- What is the role of biofilms?
  - Listeria* contrast with *Salmonella*?
  - When is it more likely to form and where? What timing relative to cantaloupe handling?
  - What role does biofilm play in barriers to a “kill step” and cross contamination from fruit or equipment (need to study biofilms on the fruit and the equipment)?
  - How can we effectively control it?
  
- Sanitary design of equipment – learn from other industries; current vulnerabilities
  - SSOPs need to be specific – guidance (can be done fast using experience of sanitarians)

#### Breakout session notes:

1. Kill step? How much kill is needed? What other interventions can be used? Pathogen-specific vs. indicator organisms? Treatments/doses for *Listeria* may be different than for *Salmonella/E. coli*. Are there other pathogens that need to be targeted? Norovirus?
2. Systems analysis – where are the best control points in the process to apply interventions?
3. Each stage of the supply chain has their responsibility/ownership in assuring food safety
4. Compile existing knowledge on the growth/behavior of the pathogens in the target environments. Anything missing today to form Recommended Practices, e.g. transference from rind surface to the interior? Variety differences? Netting differences and impact on pathogen behavior, attachment, removal? Geographical, environmental, climatic influences on risk? Potential for phage or microbial intervention; are probiotics a viable option?
5. New, rapid testing methodologies? How and when to sample and test? Are current methods optimal/sensitive, specific, and practical?
6. Prevalence of *Listeria monocytogenes*: across supply chain – geographical, seasonal, multi-harvest
7. Can we achieve sufficient surface reduction that would protect post-harvest?
8. Mitigate strategy on biofilms – Real concern? When? Where?
9. Effective practices/design/controls in field and plant → do we know what works?

10. Biofilms (product and equipment): 1 in 10K vs. 5%. Can we translate risk from available surveys?
11. Baseline information
  - To inform/direct resource allocation
  - Growth – post-harvest
  - How do strains move from areas?
  - What is the appropriate standard for intervention?

**Next steps:** Center for Produce Safety will issue a request for proposals on February 1, 2012 that will incorporate as many research priorities addressing gaps in knowledge as is appropriate. CPS will also reach out to other funding agencies to share the outcomes of this meeting and the need to support research in the identified areas.

#### **OUTCOMES: RE-EXAMINATION AND REFINEMENT OF GUIDANCE**

Summary:

- Cantaloupe specific, parallel to broader industry directives in FDA Produce Safety Rule
  - Build on current melon guidance
  - How do you conduct a risk assessment, develop preventive controls and validate what you are doing? Need more specificity.
- Regional, flexible, measurable, verifiable
  - Best practice for environmental monitoring (standardized protocols/sampling)
  - Water treatment practices, validation, verification – routine and risk-based
- Supply chain-wide, inclusive process
- All pathogens – scope needs to be defined
- Leverage learning from other commodities; e.g. tomato GAPs; Commodity-Specific Standard and Audit Protocol
- Industry associations need to organize framework for inclusive meetings – 2 weeks
  - Transparency of process essential for recovery
- Feasibility of marketing agreement or marketing order to make training/auditing mandatory? CA/AZ can drive other areas – e.g., LGMA
  - Process to look at metrics and then enforce implementation

#### **Breakout session notes:**

1. What is missing in the current Best Practices?
  - Specific metrics – regionalized: e.g., number of days before flowering to begin chlorinating irrigation water? Environmental concerns?
  - Prioritized recommendations for what is important to do, where resources should go.
  - Specific guidance for environmental monitoring of facilities/equipment for *Listeria* spp. or *Lm* (learn from other foods).
  - Balance flexibility with definitive recommendations in guidance

- Guidance should be cantaloupe-specific. Should build on existing guidance: melon and other commodities (leafy greens)
    - Transferrable to other netted melons is likely
  - Outreach of Best Practices to all audiences that need it
  - Specific recommendations (pre-harvest) on irrigation methods, regional variations, field vs. shed pack, ground contact vs. plastic mulch, wash vs. dry pack, (post-harvest) time/temperature for holding, pre-cooling.
2. Guidance (built on a foundation of current commodity-specific guidance)
    - Specific; measurable, verifiable
    - Scope; by commodity, by operation
    - Testing; protocols, standardize design
    - Control and verify
    - Recognizes verifying production regions/practices
    - Supply chain wide/long
    - Developed with input from all
    - Facilities designed for food
  3. Urgent need for outreach of existing guidance information

**Next steps:** Industry trade groups will coordinate the process to evaluate and update cantaloupe specific guidance. The framework, timeline and leadership for this process will be reported to the meeting participants within 2 weeks (i.e. end of the week of January 23, 2012).

#### **OUTCOMES: OUTREACH/TRAINING**

- Webinars, boots-on-the-ground training with regulatory support (agreement on message)
- Global scope of audience critical
- Web-based central point for information sharing
  - Both social/traditional media
- Industry associations to organize regional and local cantaloupe groups across supply chain (US/globally) to determine best mechanisms for training
  - Horizontal and vertical
  - Tomato group as an example – sink or swim together
  - Timeline – waiting for perfect training vehicle not desirable to achieve recovery goals

#### **Breakout session notes:**

1. How Do We Reach Out To The Supply Chain?
  - Involve entire supply chain
  - Mandatory marketing agreement
  - Bring together all producing regions
2. How to reach entire supply chain, U.S. and globally?
  - Develop tools and communication similar to LGMA, or as buyer-driven specification

- Webinars, boots on the ground, call logs to target audience, different media
  - Request regulatory support
  - Need messages to be consistent
  - Communication needs to be targeted to the culture (cultural awareness) of the targeted audiences
  - Identify the global scope of target audiences – do we know how to reach them?
3. Extension
    - grower/shipper has a level of control
    - Differentiate between melon producers vs. rotation
    - Buyer pull through
    - Ownership
    - Trade associations
    - Knowledge vs. implementation
    - PSA (Produce Safety Alliance)
  4. Draw from other's experiences; meat, fish, LGMA
  5. Communicate industry commitment/actions
    - Social media
    - Education; Communicate what is being done
    - Begin by examining the message and how it will be received.
    - Clearinghouse/centralized point of information, e.g. a cantaloupe safety alliance?
    - Need to compel compliance, not just communicate information
    - Consistency in expectations of grower/handler practices

**Next steps:** It is expected that there will be a lead organization for this effort identified within two weeks (i.e. end of the week of January 23, 2012).