

Leafy Greens Food Safety TASK FORCE

ABOUT THE LEAFY GREENS FOOD SAFETY TASK FORCE

The Leafy Greens Food Safety Task Force was designed to assess and address issues associated with recent foodborne illness outbreaks attributed to consumption of leafy greens and to prevent such a tragedy from occurring in the future.

California and Arizona produce over 50 billion servings of leafy greens every year to American consumers. The leafy greens community shares a common goal to strengthen the way our food is grown, harvested and distributed. The purpose of this Task Force is to sharpen our food safety systems through the entire supply chain.

TASK FORCE MEMBERS AND WORKGROUPS

Taskforce Membership includes 134 individuals who are representatives of:

- Growers and Shippers from Arizona, California and other production regions (70)
- Produce industry and related trade associations (20)
- State and local government agencies (10)
- Scientists and researchers (4)
- Consumer advocacy groups (3)
- The produce buyer community (15)
- Industry suppliers (12)

The Food and Drug Administration (FDA) and Centers for Disease Control (CDC) served as technical and informational advisors to the task force.

The below organizations make up the steering committee of the Leafy Greens Food Safety Task Force.



Leafy Greens Food Safety TASK FORCE

2018 OUTBREAK WORKGROUP

This group focused on growing and harvest conditions (including climate and water quality) that may have contributed to the outbreak that took place this year.



Teresa Lopez
Administrator
Arizona LGMA

Group Co-Leaders



Vicki-Lynn Scott
Director of Quality Assurance
Amigo Farms

Members

Vicki Scott, Amigo Farms
John Boelts, Arizona Farm Bureau
Milt Voss, B&W Quality Grower
Jay Sughroue, BioSafe Systems
Rose M. Aluotto, Blue Apron
Amanda Anaya, Bolthouse
Malcolm Ricci, Bolthouse Farms
Armando Figueroa, Braga Fresh Family Farms
Natalie Krout-Greenberg, California Department of Food and Agriculture
Ian Williams, CDC
Matthew Wise, CDC
Jessica Jones, Chick-fil-A, Inc.
Deann Davis, Church Brothers Farms
Aaron Schneider, Dole Food Company
Gurjit Shergill, Earthbound Farm
Michael Aerts, Florida Fruit and Vegetable Association
Kevin J Watson, Fresh Express
Devon Beer, Freshway Foods
Richard Brown, GreenGate Fresh, LLP
Susan Leaman, iDecisionSciences, LLC
Will Daniels, IEH Laboratories and Consulting Group
Afreen Malik, International Food Safety and Quality Services
Mary Zischke, Leafy Greens Research Board
Lawrence Henrard, Mann Packing
Greg Komar, Mann Packing

Lupe Camarena, Nature Fresh Farms
Sara Brinkley, Nevada Fresh Pak
Hellen Davenport, Ocean Mist Farms
Thea Eubanks, Organicgirl
Barbara Braden, Organicgirl
Olivia Ortiz, Pasquinelli
Sharan Lanini, PIM / Dynasty
Erendira Vargas, RC Farms, LLC
Rafael Davila Jr, Ready Pac Foods
Mary van Ryn, Retired from Apio Inc.
Megan Arnold, Robinson Fresh
Kami Weddle, Rousseau Farming Company
Pedro Mata, ScanTech Sciences
Chris Polito, Sonic Drive-In Corporate
George Mosqueda, Steinbeck Country Produce
Steve Brazeel, SunTerra Produce
Melissa Morales-Onate, Taylor Farms
Cosme Pina, Taylor Farms California
Kristina Nunes, The Nunes Co.
Lauren Sana, TopFlavor Farms
Channah Rock, University of Arizona
Paula Rivadeneira, University of Arizona Cooperative Extension
Eizzil Rivera, Walter P. Rawl and Sons, Inc.
Javier Rodríguez, Boskovich Farms
Dan Angelescu, Fluidion US Inc.
Diane Wetherington, iDecisionSciences, LLC

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CONCENTRATED ANIMAL FEEDING OPERATIONS WORKGROUP

STEC's come primarily from cows. This group looked at current standards related to proximity to CAFOs, as well as movement via equipment, packaging, vehicles, other intrusive animals or insects.

Group Co-Leaders



Hank Giclas
Sr. V.P., Strategic Planning,
Science & Technology
Western Growers



Vic Smith
President & CEO
JV Smith Companies

Members

Valentin Sierra, Amigo Farms, Inc.
John Eade, Andrew Smith Company
Colby Pereira, Anthony Costa & Sons
John Boelts, Arizona Farm Bureau
Milt Voss, B&W Quality Grower
Bill Flynn, BioSafe Systems
Rose M. Aluotto, Blue Apron
Jose Luis Garcia, Boggiatto Produce, Inc.
Siri Morse, Boggiatto Produce, Inc.
Amanda Anaya, Bolthouse
Anika Bansal, Bonduelle Fresh Americas/Ready Pac
Javier Rodríguez, Boskovich Farms
Armando Figueroa, Braga Fresh Family Farms
Bonnie Fernandez-Fenaroli, Center for Produce Safety
Deann Davis, Church Brothers Farms
Megan Chedwick, Church Brothers, LLC
Jose Ortiz, D'Arrigo Bros. Co. of CA
Ken Stearns, D'Arrigo Bros. Co. of CA
Cynthia Dominquez, Duda Farm Fresh
Jeremy Vanderzyl, Duncan Family Farms
Gurjit Shergill, Earthbound Farm
Jill Dunlop, FFVA
German Rios, Fresh Express
Kevin J Watson, Fresh Express
Abby Taylor-Silva, Grower-Shipper Association of Central California
Amanda Brooks, Harrison Farms
Diane Wetherington, iDecisionSciences, LLC
Susan Leaman, iDecisionSciences, LLC
Will Daniels, IEH Laboratories & Consulting

Afreen Malik, Intl Food Safety and Quality Services
Lawrence Henrard, Mann Packing
Lupe Camarena, Nature Fresh Farms
Sara Brinkley, Nevada Fresh Pak
Hellen Davenport, Ocean Mist Farms
Olivia Ortiz, Pasquinelli Produce
Alexander Muller, Pasquinelli Produce Co
Sharan Lanini, PIM / Dynasty
Ron Ratto, Ratto Bros.
Erendira Vargas, RC Farms, LLC
Megan Arnold, Robinson Fresh
Kami Weddle, Rousseau Farming Company
Chato Valdes, Sabor Farms
Chris Polito, Sonic Drive-In Corporate
George Mosqueda, Steinbeck Country Produce
Emanuel Hernandez, Sun Coast Farms, LLC
Steve Brazeel, SunTerra Produce
Felice Arboisiere, Taco Bell
Dr. Gurmail Mudahar, Tanimura & Antle Inc.
Jake Odello, The Nunes Co.
Kristina Nunes, The Nunes Co.
Sandra Eskin, The Pew Charitable Trusts
Jennifer Mcentire, United Fresh Produce Association
Paula Rivadeneira, University of Arizona Cooperative Extension
Trevor Suslow, University of CA, Davis
Elizabeth Fernandes, US Foods
Mike Cavenee, West Coast Soil Amendments
Michele Jay-Russell, Western Center for Food Safety, UC Davis
Sonia Salas, Western Growers

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SEASONALITY WORKGROUP

This group looked at past outbreak data and historical conditions in an attempt to determine what may be contributing factors to outbreaks at those times of the year.



Group Leader:

Scott Horsfall
Chief Executive Officer
California LGMA

Members:

Vicki Scott, Amigo Farms
Kenia Magana, Andrew Smith Co.
John Eade, Andrew Smith Company
Milt Voss, B&W Quality Grower
Kimberly Donald, Blue Apron
Rose M. Aluotto, Blue Apron
Amanda Anaya, Bolthouse
Javier Rodríguez, Boskovich Farms
Jennifer Clarke, CA Leafy Greens Research Program
Kate Marshall, CDC
Michael Jhung, CDC
Misha Robyn, CDC
Karl Kolb Ph.D., Ceres Certifications, International
Deann Davis, Church Brothers Farms
Megan Chedwick, Church Brothers Farms
Ken Stearns, D'arrigo Bros. Co. Of CA
Danielle Elizondo, Dine Brands Global Inc.
Gurjit Shergill, Earthbound Farm
Richard Brown, Greengate Fresh, LLP
Mary Campbell, Griffin Ranches, Inc.
Diane Wetherington, iDecisionSciences, LLC

Susan Leaman, iDecisionSciences, LLC
Will Daniels, IEH Laboratories and Consulting Group
Afreen Malik, International Food Safety and Quality Services
Joan Rosen, JC Rosen Resources
Greg Komar, Mann Packing
Lawrence Henrard, Mann Packing
Pete Donlon, Misionero
Sara Brinkley, Nevada Fresh Pak
Olivia Ortiz, Pasquinelli
Sharan Lanini, PIM / Dynasty
Gabriel Avalos, Ready Pac Foods
Megan Arnold, Robinson Fresh
George Mosqueda, Steinbeck Country Produce
Steve Brazeel, Sunterra Produce
Jake Odello, The Nunes Co.
Kristina Nunes, The Nunes Co.
Lauren Sana, Topflavor Farms
Paula Rivadeneira, University of Arizona Cooperative Extension
Trevor Suslow, University Of CA, Davis

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TRACEABILITY WORKGROUP

This group evaluated current traceback programs in the produce industry and their impact on traceability during outbreak events and will assess the challenges encountered in investigating outbreaks due to traceability issues. This topic extends beyond the leafy greens industry and the discussion may go on after the work of the Task Force is completed.



Group Leader

Dr. Jennifer McEntire
V.P. of Food Safety & Technology
United Fresh Produce Association

Members

Valentin Sierra, Amigo Farms, Inc.
Kenia Magana, Andrew Smith Co.
John Eade, Andrew Smith Company
Michal Brown, Arizona Department of Ag
Milt Voss, B&W Quality Grower
KIMBERLY DONALD, Blue Apron
Rose M. Aluotto, Blue Apron
Jose Luis Garcia, Boggiatto Produce, Inc.
Siri Morse, Boggiatto Produce, Inc.
Javier Rodríguez, Boskovich Farms
Armando Figueroa, Braga Fresh Family Farms
Michelle Weaver, Centralized Supply Chain Services
Jill Hollingsworth, Chemstar/Sterilox Fresh
Jessica Jones, Chick-fil-A, Inc.
Stephanie Kidd, Church Brothers / True Leaf
Deann Davis, Church Brothers Farms
Beverly Kempf, Club Chef LLC
Ralph Treadway, Coastline
Jane Proctor, CPMA
Jeff Hall, CPMA
Danielle Elizondo, Dine Brands Global Inc.
Patricia Contreras, Dole Food Company
Amy Kinder, Duda Farm Fresh
Gurjit Shergill, Earthbound Farm
Richard Walsh, Ecolab
Jill Dunlop, FFVA
Hilary Thesmar, FMI
John Gurrisi, Fresh Express
Annie Faller, Fresh Venture Foods (Gold Coast
Packing & Babe Farms)

Abby Whitehead, Freshway Foods
Kelly Miller, Griffin Family Farms
Ben Diesl, Grimmway Farms
Abby Taylor-Silva, Grower-Shipper Association of
Central California
Patrick Zelaya, Heavy Connect
Diane Wetherington, iDecisionSciences, LLC
Susan Leaman, iDecisionSciences, LLC
Will Daniels, IEH Laboratories and Consulting Group
Andrew Kennedy, IFT-GFTC
Lacy Litten, Innovative Produce
Afreen Malik, International Food Safety and Quality
Services
Herman Cossio, Ippolito International LLP
Jason Varni, iTradeNetwork
Trey Ruello, iTradeNetwork
Rakhee Joshi, Jetro/Restaurant Depot
Lawrence Henrard, Mann Packing
William L. Weichelt, National Restaurant Association
Hellen Davenport, Ocean Mist Farms
Olivia Ortiz, Pasquinelli
Colin Finan, Pew Charitable Trusts
Erendira Vargas, RC Farms, LLC
Tony Banegas, Ready Pac Foods
Mary van Ryn, Retired from Apio Inc.
Megan Arnold, Robinson Fresh
Chato Valdes, Sabor Farms
Kelly Williams, Smith Farms Company of Yuma
George Mosqueda, Steinbeck Country Produce
Michael Taylor, Stop Foodborne Illness

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Steve Brazeel, SunTerra Produce
Shane Sampels, Sysco/FreshPoint
Felice Arboisiere, Taco Bell
Kristina Nunes, The Nunes Co.
Sandra Eskin, The Pew Charitable Trusts
Jennifer Mcentire, United Fresh Produce Association
Eric Schwartz, United Vegetable Growers
Cooperative
Sruthi Srinivasan, Walter P. Rawl & Sons, Inc.

Eizzil Rivera, Walter P. Rawl and Sons, Inc.
Gillian Kelleher, Wegmans Food Markets
Michele Jay-Russell, Western Center for Food Safety,
UC Davis
Bruce Gwynn, Yuma Community Food Bank
Shara Merten, Yuma Community Food Bank

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COMMUNICATION WITH GOVERNMENT REGULATORS WORKGROUP

This group looked for ways to offer input and/or guidance to FDA and CDC on outbreak messaging and vocabulary. The time to have these conversations is not in the middle of a crisis, but before a crisis happens. The group looked at mechanisms for communications with FDA and CDC during and after outbreaks that can improve the overall ability to quickly and effectively deal with outbreaks. This is also a topic of interest to the entire produce industry, not just the leafy greens community.



Group Leader

Dr. Bob Whitaker
Chief Science & Technology Officer
Produce Marketing Association

Members

Colby Pereira, Anthony Costa & Sons
Norman Barnett, Arizona Dept. Of Agriculture
John Boelts, Arizona Farm Bureau
Milt Voss, B&W Quality Grower
Rose M. Aluotto, Blue Apron
Jose Luis Garcia, Boggiatto Produce, Inc.
Siri Morse, Boggiatto Produce, Inc.
Anika Bansal, Bonduelle Fresh Americas/Ready Pac Foods
Dave Murphy, Boskovich Farms
Javier Rodríguez, Boskovich Farms
Armando Figueroa, Braga Fresh Family Farms
Steve Patton, CA Dept. of Food and Agriculture
April Ward, California LGMA
Jill Hollingsworth, Chemstar/Sterilox Fresh
Deann Davis, Church Brothers Farms
Jeff Hall, CPMA
Gurjit Shergill, Earthbound Farm
Michael Aerts, Florida Fruit and Vegetable Association
Dan Angelescu, Fluidion US Inc.
Hilary Thesmar, FMI
Abby Taylor-Silva, Grower-Shipper Association of Central California
Amanda Brooks, Harrison Farms
Diane Wetherington, iDecisionSciences, LLC
Susan Leaman, iDecisionSciences, LLC

Andrew Kennedy, IFT-GFTC
Lacy Litten, Innovative Produce
Afreen Malik, International Food Safety and Quality Services
Rakhee Joshi, Jetro/Restaurant Depot
Lawrence Henrard, Mann Packing
Pete Donlon, Misionero
Janell Hendren, NASDA
Hellen Davenport, Ocean Mist Farms
Colin Finan, Pew Charitable Trusts
Michael Jantschke, PRO*ACT LLC
Lucy Valdovinos, RBI
Tony Banegas, Ready Pac Foods
Larry Kohl, Retail Business Services (Ahold Delhaize)
Pedro Mata, ScanTech Sciences
George Mosqueda, Steinbeck Country Produce
Steve Brazeel, SunTerra Produce
Shane Sampels, Sysco/FreshPoint
Felice Arboisiere, Taco Bell
Kristina Nunes, The Nunes Co.
Jennifer Mcentire, United Fresh Produce Association
Eric Schwartz, United Vegetable Growers Cooperative
Elizabeth Fernandes, US Foods
Jack Vessey, Vessey & Company, Inc.
Eizzil Rivera, Walter P. Rawl and Sons, Inc.

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WORK OF THE LEAFY GREENS FOOD SAFETY TASK FORCE

The first meetings of the Leafy Greens Food Safety Task Force were held June 5 and 6 in Salinas, California. The June 5 meeting was attended by 20 members of the Task Force's Steering Committee including representatives from the U.S. Food and Drug Administration and the Centers for Disease Control. During the second day of meetings, the steering committee was joined by 50 additional stakeholders from throughout the produce industry and buying community.

All attendees participated in a wide-ranging discussion on the outbreak, the investigation, traceability and potential root cause hypotheses. The Task Force agreed that smaller breakout groups will focus on key areas including: analysis of weather/climatic/growing conditions and other farm factors; traceability; and communication with government agencies.

In June and July the task force work groups conducted a total of 16 meetings.

- 2018 Outbreak Workgroup: July 5, July 12, July 19, July 26
- CAFO Workgroup: June 29, July 5, July 12, July 19, July 27
- Seasonality Workgroup: July 2, July 12, July 23
- Traceability Workgroup: June 21, July 6, July 13, July 20
- Communications Workgroup: July 23

Meetings were held via conference call and webinar. Work group members were able to consider and discuss hypothesis that were outlined. As a result of the Work group meetings multiple recommendations were brought before the full Task Force for consideration at a meeting July 31 and August 1 in Yuma, AZ.



Close to one hundred members of the Leafy Greens Food Safety Task Force gathered in Yuma, AZ July 31 and August 1 to finalize their recommendations.

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LEAFY GREENS FOOD SAFETY TASK FORCE RECOMMENDATIONS

The Leafy Greens Food Safety Task Force met this week for the second time in a two-month period to make recommendations aimed at preventing another foodborne illness event like the recent multi-state outbreak associated with romaine lettuce from Yuma, AZ.

Members of five Work Groups appointed by the Task Force spent thousands of hours in the past few weeks reviewing data provided by government investigators and considering possible factors that may have contributed to the contamination of romaine that led to an outbreak of E. coli O157:H7.

Identifying the specific cause of this outbreak has been difficult because a significant volume of leafy greens is produced in the Yuma region. It has been challenging to pinpoint what practices or conditions could only have affected a small percentage of romaine believed to be responsible for illnesses. Therefore, the Task Force's recommendations are based on a wide range of factors.

Some of the issues currently being considered by the Task Force include:

- The propensity for romaine lettuce to experience a condition called "epidermal peel" which, under some unusual conditions, may have allowed the pathogen to enter leaves
- The role unusual weather such as high winds and/or frost may have played in this outbreak
- The proximity of a large concentrated animal feed operation to leafy greens fields in the area
- Testing by federal public health agencies that identified the presence of the E. Coli genetically-linked to the strain causing the outbreak in canal water used in farming activities
- Difficulties experienced by government investigators in tracing romaine lettuce implicated in the outbreak through distribution channels
- The need for improved communications with government agencies

The Leafy Greens Food Safety Task Force is recommending several action items aimed at improving the safety of leafy greens including immediate changes to the food safety practices, or metrics, required by the Leafy Greens Marketing Agreements in California and Arizona.

Additionally, the Task Force is recommending updates to some of the Guidance Documents which specify "best practices" for LGMA members. A number of research needs have also been identified and the Task Force will continue to work on several ongoing issues and actions.

A complete list of Task Force recommendations is below.

LEAFY GREENS FOOD SAFETY TASK FORCE RECOMMENDATIONS

SUGGESTED CHANGES TO THE LGMA METRICS

- Update Best Practices for 1) Environmental Assessments and 2) Climatic Conditions/Environmental Conditions
- Require SOPs to evaluate Climatic Conditions/Environmental Conditions
- Change traceback requirement by removing “when available” language
- Update Appendix C: Sampling Protocol (based on raw product sampling survey)
- Create a new appendix to the guidance that includes adoption of the “traceability” vision and best traceability practices (Global Food Traceability Center)

INDUSTRY GUIDANCE AND TRAINING

- Obtain & document data on late season growing conditions and practices
- Outbreak 101 sessions for key leaders and industry
- Develop a traceability training for retailers/food service
- Develop guidance for growers operating near CAFO’s
- Develop product sampling protocol

SCIENTIFIC RESEARCH NEEDED

- Irrigation research for the impacted area
- Freeze mitigation strategies
- Weather data/sensors
- Ag water treatment/irrigation water
- Air/soil sampling
- Pathogen mitigation/mitigation strategies
- Dispersion, deposition and survival studies
- Current industry practices (surveys)
- Historical data findings

ONGOING EFFORTS

- FDA/CDC/industry quarterly meetings
- Review/analysis of additional data on past outbreaks
- Create training programs related to seasonality for growers, handlers, harvesters, auditors and others
- Strengthen audit oversight during periods of concern
- Define proactive industry effort to assist during outbreak investigations
- Define reactive “seal team” concept for industry and agencies
- Participate in ongoing traceability discussions