Beverages and Acidified Foods PDG Meeting

Attendees: April Bishop (Chair), Yoqian Lou (Vice- Chair), John Allan, Angela Anandappa, Olivia Arends, Jyoti Aryal, S. Balamurugan, Brittani Bedford, Aeriel Belk, Jared Bock, Fred Breidt, Robert Buchanan, Carmen Cantu, Mark Carter, Erdogan Ceylan, Judy Chow, Betsy Craig, Sitara Cullinan, Carl Custer, Mary-Grace Danao, Mary Morris- Donaldson, Eric Edmunds, Craig Edwards, Robyn Eijlander, Julia Fukuba, Yupawadee Galasong, Yuan Guo, Abdul Aziz Al Hajeri, Roger Hancock, Erin Headley, Gayan Hettiarachchi, Leslie Hintz, Manki Ho, Karla Horne, Ingrid Huntley, Keith Ito, Brian Izdepski, Marion Shepherd, Jr., Ahmed Al Kaabi, Layal Karam, Pete Kennedy, Mondonna Khan, Sefat E Khuda, Sanjay Kumar, Loralyn Ledenbach, Girvin Liggans, Susan Linn, Ryk Lues, Vivian Ly, Alina Magnuson, Taylor Maloney, Robert Manning, Colleen Mattingly, Rachel McEgan, Michael Michel, Rupesh Modi, Donna Moore, Juan Moreira, Melanie Neumann, Amanda Ng, Rocio Nunez, Wilfredo Ocasio, Cory Ortego, Christine Endacott- Palmer, Brian Perry, Raghu Ramaswamy, Alyssa Roberts, Lisa Robinson, Patricia Rule, Kristin Schill, Girdhari Sharma, Nic Sharman, Yang Shen, Niraj Shrestha, Dara Smith, Megan Smith, Daniele Sohier, John Spink, Rico Suhalim, Susan Teegardin, Sjuul Thijssen, Anneliese Townsend, Corey Troutman, Theresa Upshall, Ann Charles Vegdahl, Zachariah Vice, Surabhi Wason, Wendy White, Sharon White, Amy Wise, Changqing Wu, May Yeow, Pagiel Yoo, Pam Young.

Attendees: 92.

Meeting Called to Order: Sunday, 1:00 p.m. Eastern Time, July 16, 2023.

Minutes Recording Secretary: Julia Fukuba.

Incoming Vice-Chair, Yuqian Lou, Ph.D. provided the introduction. Antitrust guidelines were read.

Old Business: Student liaison (Bet Wu) gave updates on Student PDG**,** large discussion for symposium/roundtable ideas**,** nominations for Vice-Chair**,** discuss what foods to include in 'Beverages and Acidified Foods' PDG.

May Yeow shared list of proposed ideas from previous years**.** 6 titles, and 5 got through**.** Accepted Symposium was S29 – Symposium @ Tuesday July 18, 2023 8:30AM 718B.

New Business: Julia Fukuba, Graduate Student, University of Massachusetts Amherst, Department of Food Science "Investigation of food safety process parameters within Lacto-fermented sauerkraut." Lacto-fermented foods – sauerkraut, kimchi, etc. Rise in market trends, new business opportunities, market growth within the next few years.

FSMA enacted in 2011 – Preventive Controls for Human Foods requires food businesses/processors to establish a food safety plan. Within food safety plan, validation work is needed to ensure mitigation of pathogen growth.

However, there is limited resources, scientific data on food safety aspect of lacto-fermented foods. Outbreaks/Recall associated with lacto-fermented foods. Thesis project: Investigate various process parameters (ex., salt concentration, incubation temperature, etc.) to find out the optimal fermentation conditions for producing sauerkraut. Future studies-inoculation studies to see growth of pathogens within this optimized condition.

Student PDG 2023 Updates were given.

Fred Breidt, Ph.D. – Microbiologist, USDA, North Carolina State University, "Buffer capacity of research and the safety of acid and acidified foods," Technology, Petition how to regulate acidified foods (to the FDA), Buffer modeling – helps determine if food is acid or acidified, raw pH impact, What is buffer modeling? Plot a BC curve by taking the derivative of pH levels of ingredients, We can find the pK and can predict final pH levels of food products, Water is not an ingredient for acidic foods.

Published papers – ex., Buffer models for pH and Acid Changes Occurring in Cucumber Juice Fermented with *Lactiplantibacillus pentosus* and *Leuconostoc mesenteroides.*

If you know the pH, you can know what acids are produced/included.

tBeta – quantitative measure of how food ingredients influence equilibrated pH, area under buffer curve subtract area under the water curve, use how to impact policies of foods, sugar – not a strong base, actually a very weak acid, can use for product development – dressing formulation, combine ingredients from database tables automatically generated pH predictions acid or acidified? Validation with multiple acids/ ingredients, Future – link bacterial pathogen and observe 5-log reduction with pH and acid, Pathogen – *E. coli, Salmonella, Listeria.*

Discussion for Symposia and Roundtable ideas.

Last year's ideas for proposal: Wilfredo's idea got accepted. Idea sweet and Savory – should sugar be considered a low acid ingredient (only aqueous phase – not in oil), syrups, food ingredient companies, Contact: Fred, Wilfredo, Yuqian.

Recall in aseptic products: analyze issue – how to prevent that to happen again, Sanitation (work with Sanitation PDG), People don't know how to approach/introduce gap of knowledge, How can we avoid another Giant recall in low acid aseptic foods.

Antimicrobial properties of coffee and tea: Symposium, Issue and concern, How antimicrobial these are FDA LACF, TCS, work with Dairy PDG.

Best practices for holding low acid raw beverages: Symposium, Work with Modelling PDG?

From 2019 – How can we effectively reuse/reclaim water end-to-end: Cost efficient, Collaborate with Water PDG, Dairy PDG, Sanitation PDG.

Safety of Ready-to-eat Fermented Foods (Kimchi, sauerkraut, kombucha): Symposium, UMass Amherst Lab, International Institute of Kimchi, USDA/NC State, Combine with idea from 2019.

Non-thermal technology of safety practices and validation work: UV, ozone, electrolyzed, HPP, with Water PDG.

Think of food product examples to include in Beverages and Acidified Foods PDG.

Recommendations to the Executive Board: None.

Next Meeting Date: Sunday, July 14, 2024, Long Beach, California.

Meeting Adjourned: 3:00 p.m. Eastern Time.

Chairperson: April Bishop.