The Innovation Center for U.S. Dairy® Announces release of "Controlling Pathogens in Dairy Processing Environments: Guidance for the U.S. Dairy Industry"

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Tim Stubbs

"Controlling Pathogens in Dairy Processing Environments: Guidance for the U.S. Dairy Industry," was released by the Innovation Center for U.S. Dairy October 2019. Authored by a team of dairy industry and sanitary design experts, the ~90 p guide is built upon the previous guidance "Control of *Listeria monocytogenes*: Guidance for the U.S. Dairy Industry." This new guide was expanded to include best practices to control *Salmonella* and *Cronobacter Sakazakii*, in addition to *Listeria monocytogenes*.

The guidance focuses on best practices for the separation of raw and ready-to-eat products, good manufacturing practices (GMP), sanitary facility and equipment design, principles of cleaning and sanitation, and environmental monitoring programs. The guide includes several easy-to-use checklists and is written in a way that is understandable and useful to facilities of all sizes.

The Guidance is designed to be a one-stop reference document that the dairy industry can use in improving existing food safety programs to ensure adequate control of environmental pathogens.

Copies can be downloaded at www.usdairy.com/foodsafety for free. For more information or questions please contact Tim Stubbs, Vice President of Food Safety or Chad Galer, Vice President of Food Safety at the Innovation Center for U.S. Dairy.

Pathogen Control Guidance Document

The Pathogen Control Guidance document was designed to provide best practices to better control pathogens in both wet and dry processing environments. Specific considerations for wet and dry products and processing will be included for each principle covered in the document.

It is crucial in all environs to understand the necessity to control water, moisture, and humidity.

With the diverse information needs of this group, and the obligation to present scientific principles and best practices, the document employs a simple graphic to guide the reader.

The graphic symbolizes the basic programs that are recommended to be employed in concert to establish effective pathogen control in a dairy manufacturing facility.

This is the **Pathogen Control Equation**:

Core principles of the Pathogen Control Equation will be discussed in depth to help identify focused practices which are essential to effective pathogen control. The maturity of a firm's food safety culture impacts how effectively the principles of the equation are implemented and followed. Years of experience and best practices from multiple food categories have been summarized as the following core principles:

Principle #1

Separate Raw from Ready-to-Eat

History has shown that there is a greater likelihood of finding pathogens or spoilage organisms in uncontrolled or raw manufacturing areas than in controlled production or Ready-to-Eat (RTE) areas. Managing the flow of personnel, supplies, air movement and equipment significantly reduces the potential for cross-contamination.

Additional measures may be necessary in the manufacturing of dry RTE products including added controls for high hygiene areas.

Principle #2

Good Manufacturing Practices and Controlled Conditions

Following Good Manufacturing Practices (GMPs) is one of the most fundamental expectations in the food industry to prevent contamination of products. GMPs apply to both personnel and production practices.

Surfaces in a dairy production facility can be wet from manufacturing conditions; this moisture can support microbial harborage and growth thus floors and other similar surfaces should be dry, well maintained, and free of cracks. Harborage points are locations where pathogens may survive, and they are usually difficult to reach with routine cleaning.

Principle #3

Sanitary Facility and Equipment Design

Sanitary design involves the design, construction, and installation of equipment and facilities in a manner to support effective and efficient cleaning and sanitizing. Surfaces which are difficult to clean can be challenging and/or overlooked during a sanitation cycle, resulting in microbial harborage and growth.

It is important to fully assess cleanability and identify continuous improvements to facility and equipment design. Quality, food safety, and engineering professionals should spend time observing and possibly performing cleaning duties during the sanitation process to build a practical knowledge.

Principle #4

Effective Cleaning and Sanitation Procedures and Controls

Cleaning and sanitation need to always be effective. Effective and enhanced cleaning procedures have been proven to compensate for poor facility or equipment design until improvements can be

implemented. Effective sanitation is critical to maintaining pathogen control in the plant environment.

A standard protocol for cleaning with 7 steps has proven to be both efficient and effective in maintaining sanitary conditions. This approach will be discussed in detail in this section of the guidance.

Principle #5

Environmental Pathogen Monitoring

Robust and effective environmental monitoring programs (EMP) measure the success of a dairy plant pathogen control program by assessing the conditions during and after production.

EMP is a means to verify that your preventive controls, GMPs, sanitary design and sanitation programs are effective. An environmental monitoring program helps you understand your manufacturing environment and make improvements as indicated by the testing results.

Focusing on these core principles provides consistent control and long-term stability for pathogen management programs. Users of this document will find it flexible enough to be studied completely or in sections, depending on the reader's interests and needs.

This environmental Pathogen Control Guidance is offered by the Food Safety Operating Committee of the Innovation Center for U.S. Dairy.

It is part of a broad set of food safety education initiatives designed to strengthen manufacturing practices in all dairy processing facilities with the goal of reducing food safety risks. More information regarding hands-on workshops and user resources is available at www.usdairy.com/foodsafety.

Thank you for sharing in the industry's commitment to advance food safety performance every day.