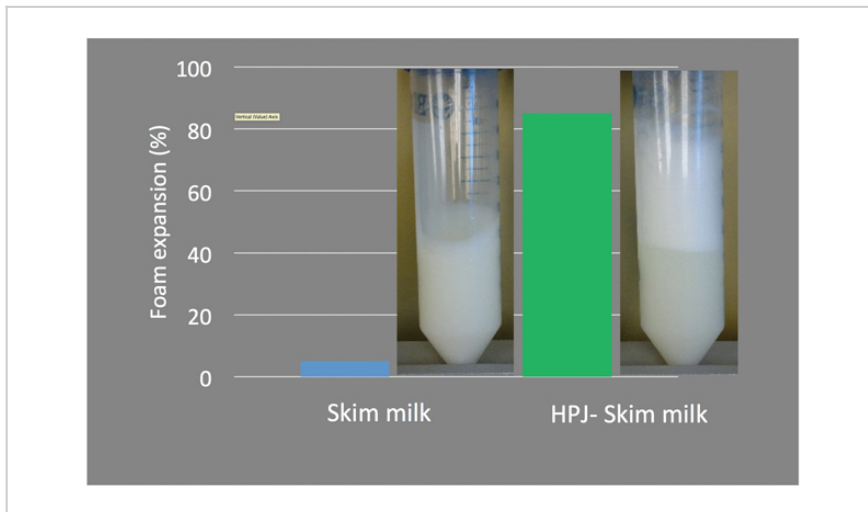


Milk-Based Foaming & Emulsifying Ingredients for “Clean” Foods

ID# 2015-4314



8 Hours after Foaming Both Milks

Technology Summary

A growing number of consumers in the U.S. and worldwide are seeking foods that are minimally processed and/or contain familiar ingredients, and rejecting foods containing synthetic components. This technology uses skim milk as an ingredient to impart foaming and emulsifying properties for specific foods that have typically relied on artificial ingredients for these properties. The use of high-pressure jet processing transforms the casein proteins in skim milk into foaming and emulsifying agents. High pressure and stress dissociate the protein quaternary structures (so-called casein micelles) into monomeric forms that express unique interfacial properties in complex food systems.

Application & Market Utility

The “clean eating” trend has been challenging for dispersed food systems (foods requiring homogeneous dispersion of certain ingredients), including foams such as ice cream and emulsions such as salad dressings, for which replacing synthetic emulsifiers has been difficult. Milk-based foaming and emulsifying ingredients offer a solution to food companies that want to deliver these specific characteristics while allowing for “clean” labeling. Applications include foods consumed partially or totally as foams (ice cream, coffee) and food emulsions (salad dressings).

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- clean foods
- emulsion and synthetic emulsifiers
- foaming properties
- food processing
- U.S. Patent No. 10,390,543

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