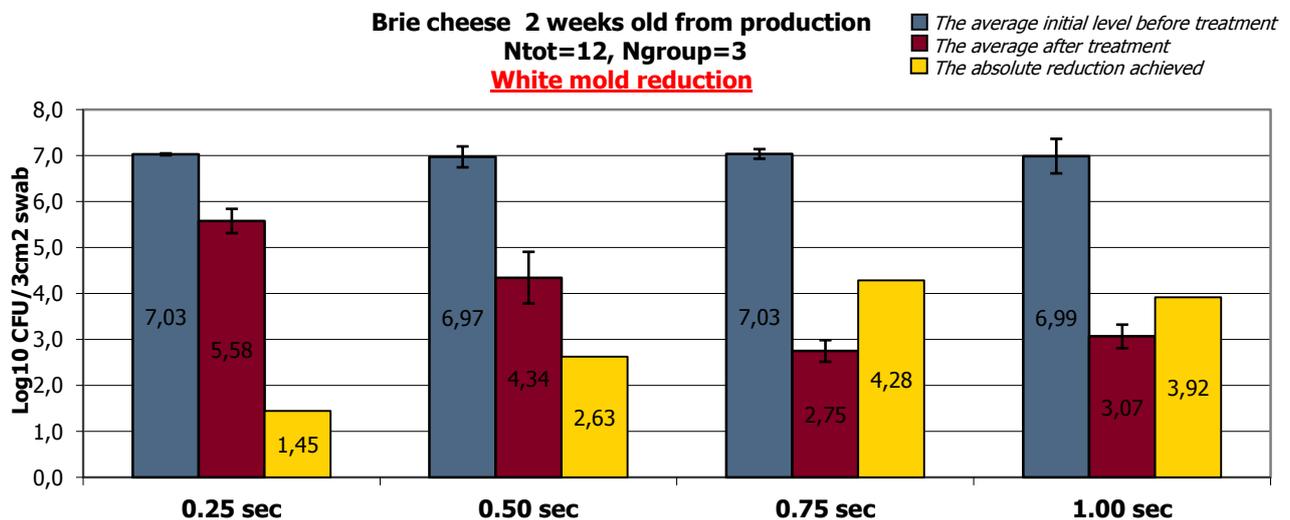


White mold cheese decontamination

SonoSteam® treatment achieves 99.9% mold reduction within 1 second

Obtained results

SonoSteam® is a chemical free disinfection treatment which has shown to achieve more than 4.0 log reductions (up to 99.9%) within only 1 second on moldy brie cheese to improve shelf life. The short treatment does not affect the product in regard to sensory changes.



About the experiment

White mold brie cheese, two weeks old from production date, was SonoSteam treated at 95°C and varying treatment times from 0.25 to 1 second. The aim was to achieve significant high reductions in order to minimize the growth of the white mold that is present on the surface. Too high levels of the white mold influence the taste and appearance of the cheese negatively and reduce the shelf life. Blocks of brie cheese was treated one at the time and swabbing was performed on one side of the surface of cheese before the treatment and on the other side after the treatment. During swabbing,

effort was put into scraping the surface to get as much mold on the swabs as possible for analysis. Testing parameters were set to treat cheese for no longer than 1 second while reductions at 0.25, 0.5 and 0.75 seconds were also investigated. Microbial analysis showed that the initial levels of mold on cheese blocks were around log 7.0 on average. The lowest reduction achieved was 1.5 logs (achieved in 0.25 second) while the highest reduction was 4.0 log units or 99.9% CFU/swab (achieved in 1 s). No sensory changes were found.

The SonoSteam® process

SonoSteam® is a chemical free decontamination process designed for food and non-food surfaces. The technology applies the combination of steam and ultrasound to achieve rapid and enhanced treatment within seconds. The short treatment (within 2 seconds) is ideal for decontamination of delicate food products such as chicken or salmon, without causing adverse changes to food quality. The treatment is also designed for effective and continuous disinfection of materials and food contact surfaces during production.



Benefits of using SonoSteam®

1. Significant reduction of microorganisms

Effective reduction of surface related microorganisms like pathogens i.e. *Campylobacter*, *Salmonella*, *E. coli*, *Listeria* and other bacteria. In addition, SonoSteam® is effective against yeast and fungi.

2. Only few seconds of treatment

The combination of ultrasound with steam results in a heat transfer so fast that microorganisms are reduced within seconds. Thereby it is possible to integrate SonoSteam in any production without causing delays.

3. No use of chemicals

SonoSteam® only features steam and ultrasound. The process does not use any chemicals or other agents that otherwise might leave residues. Therefore the technology can be applied to organic surfaces during production.

4. None or minimal sensory impact

SonoSteam® does not cause any significant changes to sensory characteristics, such as appearance or odour.

5. Reaches the microstructure of the surface

Microorganisms placed in the microstructure and pits of the product surface are reached and reduced by the steam. The ultrasound causes the steam to be continuously forced into pits and pores on the surface.

Contact information

SonoSteam – a division of FORCE Technology

Park Allé 345 DK-2605 Brøndby

Phone: +45 43 26 70 00

E-mail: sonosteam@sonosteam.com

Website: www.SonoSteam.com