

Microbiological risk classification of reclaimed and recycled water in dairy companies

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Funding:	The Danish Milk Levy Fund (Mælkeafgiftsfonden)
Project manager:	Søren Aabo
Institution:	Technical University of Denmark, DTU National Food Institute
Collaborators:	Claus Heggum, Chief consultant, Danish Agriculture & Food Council

Aim and Description:

The goal of the project is to perform a risk assessment of the use of reclaimed or recycled water in the Danish dairy industry. The project is based on a new industry code for dairy companies that the Danish Agriculture & Food Council is in the process of developing (see Annex 1). The code gives a generic description of the dairy business use of reclaimed (from milk) and recycled water, and gives directions as to how the water can be used in production without compromising food safety. The focus of the project is on the microbiological aspects of the use of reclaimed/recycled water. The project is divided into three work packages. In work package 1 knowledge will be collected about the quality of the different types of reclaimed/recycled water that are available on the Danish dairies and the processes the reused water potentially can enter. In work package 2 we will describe the microbiota (bacterial flora) in the water and specific processes using DNA sequencing technology based on 16s ribosomal DNA. The obtained data will be used as input to work package 3, where predictive computer models will be developed, describing the growth and survival of (pathogenic) microorganisms in different types of reclaimed/recycled water during storage, and in the products that are being produced using the water. The models will be used to risk classify water and processes and form the basis for reuse of water to processes of the same or higher risk classes. The project outcome can be used as documentation for the regulatory approval of the new industry code. The project is a three-year PhD project at DTU Food.