

**TINE Dairy**

A Mellifiq reference project



# Elimination of black mold at dairy facility

**The cheese production increased thanks to the warehouse ozonation**

**MELLIFIQ**

# TINE Dairy, Dovre, Norway

In the central part of Norway, there is a town called Dovre. Despite the small size, the history of Dovre goes back in time to about 6000 years ago. Nowadays, TINE – the largest Norwegian dairy company – is one of the main industries located there. In the central part of the town, TINE's industrial plant produces a type of soft cheese called "hvitmuggost". The plant has a capacity of around 230 tons of cheese per year.

## Facts

Name:	TINE SA
Location:	Dovre, Norway
Industry:	Food production
Air volume:	8 000 m <sup>3</sup>
Purpose:	Room sanitation for mold, bacteria and viruses
Performance:	Complete mold removal with regrowth prevention

## Solution:

### **RENA Pro B6 Ozone System, model B6 with multiple injection**

Dimensions (HxWxD):	1,800 x 600 x 800 mm
Weight:	120 kg
Input power:	2.3 kW

## The problem

One of the stages in the cheese production is the ripening of the wheels. These need to be stored in a large warehouse until they are ready to be packed and sold. The aging time lasts for several weeks, depending on the hardness of the desired product. During this time, the wheels are vulnerable to attacks from microorganisms such as black mold. This resistant parasite is one of the most common in food industries. By growing on the wheels, the mold contaminates the product which is then not available for sale. The site in Dovre exhibited extensive black mold growth in various locations, especially in the storage warehouse. The whole production process was sub-optimal, with difficulties in predicting the annual production.



*"Hvitmuggost" or white soft cheese produced at the dairy production facilities in Dovre.*

## The solution

Mellifiq was commissioned to sanitize the entire warehouse, having a total volume of 8000 m<sup>3</sup>. While mold removal was the main purpose of the treatment, other microorganisms were also considered. Bacteria – such as legionella and salmonella – may also occur at the premises. At the same time, viruses are also a threat present in all environments. The sanitation treatment was also required to prevent any possible spread of bacteria and viruses in the warehouse. For this tough application we selected the Ozonotech RENA Pro Ozone System, model B6. Ozonotech RENA Pro is the premium Mellifiq's choice for air treatment. These systems are fully integrated with all components mounted on a compact skid. Once they are delivered, they just need a power supply and they are ready to produce ozone. The ozone outlet was split into various injection points. The treated area was divided into various sectors with one injection point per sector. This distribution was ensuring a homogeneous ozone concentration throughout the warehouse.



*A RENA Pro Ozone System*

## Evaluation

The results clearly showed the successful sanitation of the room: black mold was removed, with no occurrences of regrowth. At first our ozone system was tested for one month. This period was used to find optimal settings, combining an effective mold removal with short treatment times. For this application, 3 ppm of ozone were applied for up to 10 hours in order to complete the sanitation cycle. After the testing period, our client was glad to keep the system, due to the proven performance.

The benefits of ozonation were multiple:

- Increased production capacity by more than 10 %
- Accurate prediction of yearly budget
- Reduction in labor for manual cleaning
- Safer working environment by preventing bacteria and viruses

We are glad to know that, since the installation day, we solved this tough sanitation problem for our client.

# About Mellifiq

Mellifiq is a multi-awarded environmental service company group, that has since the early nineties evolved into a world leading system and solution provider with multiple groundbreaking applications for industrial, municipal, and real estate clients. We supply cutting-edge technologies to manage the most sophisticated air, water, and energy challenges.

Mellifiq offers a complete range of air and water treatment technologies and solutions across multiple industries such as processing industry, energy sector, food and beverage, pharmaceutical, wastewater treatment and commercial real estate.

Mellifiq offers strong and renowned brands, such as Ozonotech, Nodora and Water Maid, and world-class engineering services combined an excellent track record of more than 40 years of innovation. We help our clients achieve the most efficient and sustainable solutions while creating the maximum value for their businesses.

With several business units across Europe, Mellifiq is headquartered in Stockholm where research and development, production, QA and certification all take place. Our unique technology and our extensive expertise have made us the Center of Excellence for the world's most complex projects, and a global player with installations on all six continents.

Everyday millions of people rely on our solutions for ventilation, disinfection, sanitation, and odor control. We are committed to raising the bar for the concept of clean and the industry standard for engineering, technical services and general contracting.

For additional information, visit our website at [www.mellifiq.com](http://www.mellifiq.com)

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