

CASE STUDY # 055

BUTTER GREASE BIODEGRADATION IN A WASTEWATER BUFFER TANK IN THE DAIRY INDUSTRY

SUBJECT:

Reduction of the grease layer in a wastewater buffer tank in a butter production plant.

PRODUCT APPLIED: MICROCAT-DNT, Fat, Oil and Grease degrader



TREATMENT SYSTEM:

1. Anoxic buffer tank for pH equalisation
2. Sample pit before discharge point into local sewer network
3. Local sewer network with underground chamber

WASTEWATER PARAMETERS:

1. Waste water flow: 700 - 1000 m³/day
2. COD: 800 - 900 mg/l
3. N_{kjeldahl}: 30 - 50 mg/l
4. pH: 11-12
5. Temperature: 30° - 50° C
6. 200 - 250 kg grease/day

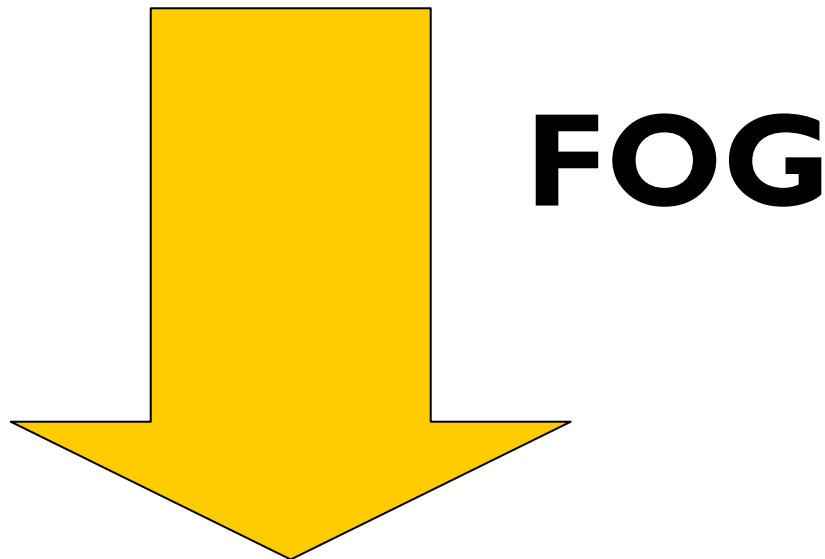
OBJECTIVE:

The objective of the treatment was the reduction of grease build-up in the buffer tank and the local sewer network. Grease accumulation made it necessary to perform maintenance to the tank every two weeks.

PROGRAM:

Based on the above data a maintenance program of 0,45 Kg **MICROCAT-DNT** per day was established. Before the start of the treatment the buffer tank was cleaned in the normal way.

MICROCAT-DNT was suspended in 10 litre tepid water and dosed once a day via the roof of the buffer tank into the wastewater. During a period of 4 weeks both the COD concentration of the influent and the effluent of the buffer tank was monitored and compared with previous collected data. Visual inspections of the buffer tank, Sample pit and underground chamber of the sewer network were conducted.

**RESULTS:**

After one week of dosing there was hardly any grease accumulation in the buffer tank detectable. During a period of 27 days a minimal grease accumulation in the buffer tank was detected. The sample pit and the underground chamber of the local sewer remained free from grease. This demonstrated the effectiveness of **MICROCAT-DNT**.

COD analysis indicated that a reduction of 28% was achieved in comparison with the previous situation (see figure 1). After calculation of the inhabitant equivalents a reduction of 30% was noted (see figure 2) in comparison with the situation before dosing **MICROCAT-DNT**. This proofed that the product completely degraded the grease and other dissolved components in the wastewater.

The results have motivated the customer to continuously apply **MICROCAT-DNT** in the buffer tank by using an automatic dosing system.

Figure 1.
Comparison of COD levels with Microcat-DNT dosing in a buffer tank of a butter production plant.

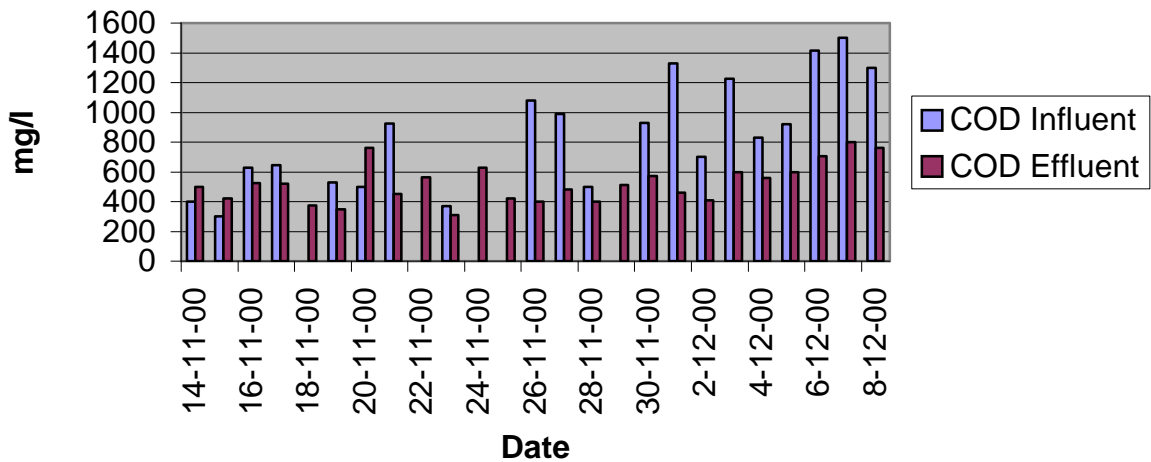


Figure 2.
Comparison of I.E.'s with Microcat-DNT Dosing

