**CASE STUDY # 100**

# REDUCTION AND CONTROL OF $N_T$ (total nytrogen) IN A CHEESE FACTORY

## SUBJECT:

Improvement of nitrogen removal in WWTP of cheese factory .


## PRODUCT APPLIED: MICROCAT®-DEN

## TREATMENT SYSTEM:

(1) Wastewater flow: 2000 $m^3$/day daily flow.
(2) 2 SBR tanks.

## OBJECTIVE:

Reduce and control total nitrogen rate in outlet water after biological treatment. Complaints were, that because of overloaded WWTP it is hard to achieve the values stated in regulations.

## PROGRAM:

Addition of 3 kg/day of **MICROCAT-DEN** for first two days, followed by 2 kg/day for days 3-10, and 2 kg/day for days 11-20. Followed by 0,5 kg/day as maintanence dosing. The **MICROCAT-DEN** was applied only in first SBR tank.

## RESULTS:

After two months of **MICROCAT-DEN** use, the total nitrogen concentration was lower than the permit levels. Comparison between the two SBR tanks, demonstrated that the tank receiving the **MICROCAT-DEN** had a 50% lower $N_T$ concentration, than the tank without the DEN. An unexpected benefit of **MICROCAT-DEN** was, that it significantly increased settling index of activated sludge, what allowed the client to make changes in operational scheme of the treatment plant.

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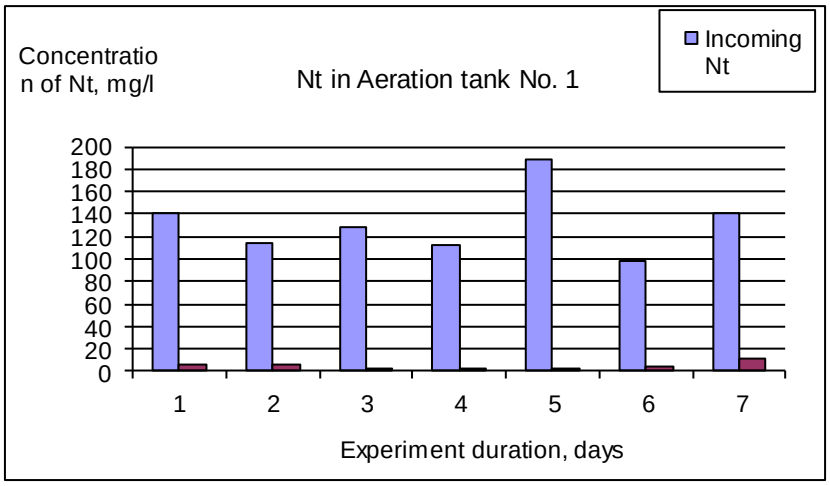
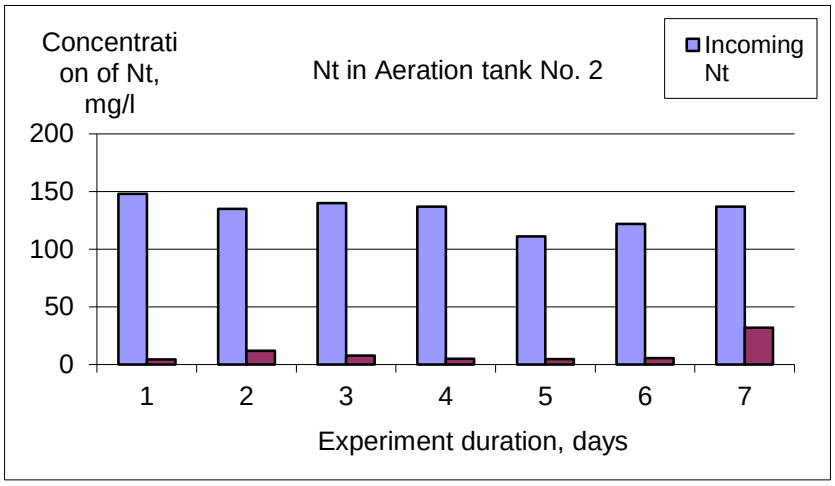
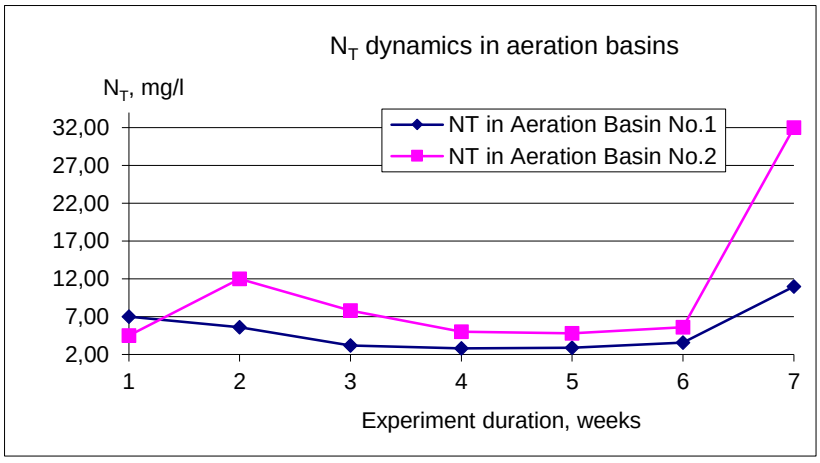
Graph 1. $N_T$ concentrations with Microcat DEN




Graph 2. $N_T$ concentrations without Microcat DEN




Graph 3. $N_T$ concentrations in Aeration Basin 1 VS Aeration Basin 2

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