

CASE STUDY # 029

OIL, GREASE AND BOD REDUCTION IN A FOOD PROCESSING WWTP

SUBJECT:

Reduction of oil and grease (O&G) and biochemical oxygen demand (BOD) from spent potato cooking oils and waste carbohydrates in a food processing wastewater treatment plant.

PRODUCT APPLIED: **MICROCAT-DNT, Drain and Trap Bioformula**
 MICROCAT-SXM, Grease and Fat Bioformula



TREATMENT SYSTEM:

1. Wastewater Flow: 455 m³/day
2. Corrugated Plate Interceptor Separation, to Equalisation
3. Primary Settling
4. Four (4) Aeration Tanks in Series, 147.6 m³ each
5. Secondary Settling & Clarification (8,5 m diameter clarifier)

OBJECTIVE:

To reduce high O&G loadings to the biological system. The O&G is primarily in the form of spent cooking oils.

PROGRAM:

An initial 30 day application program of **MICROCAT-DNT** and **MICROCAT-SXM** was added directly to the first aeration tank where O&G entered the biological portion of the system. Conditions in the first aeration basin, such as short retention time, no return activated sludge and a continuous flow, dictated a 0.45 Kg per day dose of **MICROCAT-DNT** and a 1.8 Kg per day dose of **MICROCAT-SXM** in order to achieve program objectives.

RESULTS:

During the thirty-day treatment period, BOD and O&G were reduced significantly. BOD removal improved to 98% with microbial product addition versus 75% without microbial addition (Figure 1). O&G effluent values improved 80% with **MICROCAT-DNT** and **MICROCAT-SXM** addition (Figure 2).

Due to the success of the initial inoculation program, the food processor continues applying **MICROCAT-DNT** on a daily basis to maintain the oil and grease reduction through the system. **MICROCAT-SXM** is used intermittently when food production rates increase placing a heavier load on the treatment system.

