

CASE STUDY # 024

FILAMENTOUS ORGANISMS CONTROL UTILIZING BIOAUGMENTATION

SUBJECT:

Reduction of *Nocardia* and other filamentous organisms in a food processing wastewater treatment plant.

PRODUCT APPLIED: MICROCAT-XF, Natural Filamentous Growth Inhibitor



TREATMENT SYSTEM:

1. Primary Clarification
2. Sequencing Batch Reactors (SBR)
 - a. Flow = 378.5 m³/day
 - b. (2) 1514 m³ tanks
 - c. Aerobic digester

OBJECTIVE:

To reduce the *Nocardia* and other filamentous bacterial populations in the mixed liquor, to eliminate foaming problems, and to improve overall settling of solids.

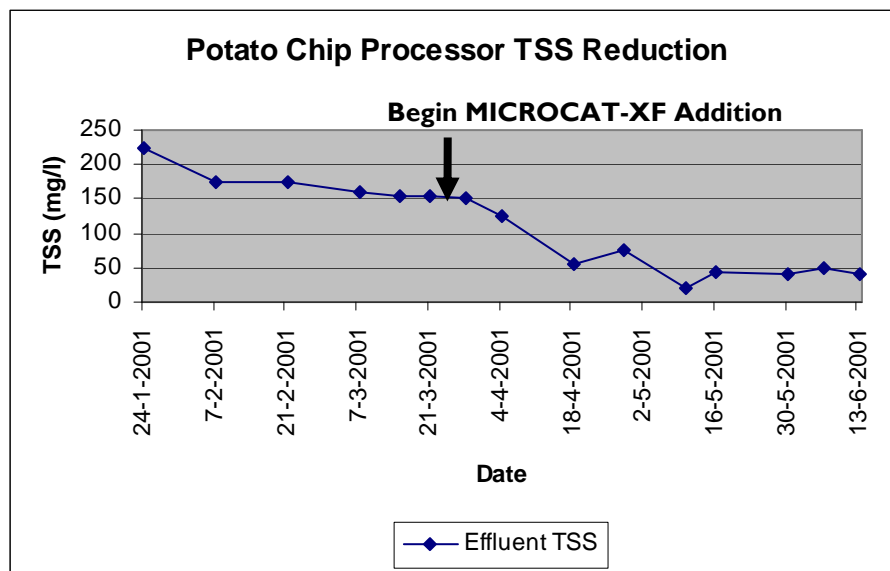
PROGRAM:

MICROCAT-XF was added to the SBR 's in a start-up dosage mode. Microscopic examination of the biomass was undertaken and sludge settling was monitored during the course of **MICROCAT-XF** application. The dosage schedule was decreased to a maintenance dosage rate once the sludge settling and brown structural foam caused by the *Nocardia* filaments displayed visible improvement.



RESULTS:

Microscopic examination of the mixed liquor in the SBRs was performed on a weekly basis. Decreased levels of filamentous bacterial populations was observed after one week of **MICROCAT-XF** inoculation. Sludge settling improved after one week of inoculation resulting in reduced TSS in the effluent and reduced sludge volume (waste activated sludge) contributing to reduced sludge disposal costs. The brown foam associated with *Nocardia* filaments was eliminated three weeks following the inoculation program. Weekly microscopic examinations of the system's mixed liquor continue to show decreases in the *Nocardia* filamentous populations and increases in the quantity of higher lifeforms (stalked ciliates and rotifers) that indicate a healthy biomass. (See chart on page 2.)



CONCLUSIONS

The **MICROCAT -XF** bioaugmentation program was successful in achieving the treatment objectives of reduced filamentous organisms, elimination of brown foam and better settling sludge. A maintenance schedule for **MICROCAT-XF** addition has been followed to insure continued filamentous growth inhibition.