

Case Study - Flocculants

Smarter sludge dewatering with measurable cost and water savings

A Belgian Food industry site achieving higher sludge dry matter and lower water use through flocculant polymer optimisation

KEY RESULTS

Increase of sludge dry matter

15% → 20%

Saving of tap water

2 million Liters/year

Annual cost saving

Approx. €45,000/year

INTRODUCTION & PROBLEM

At a large Belgian Food industry production site, OQEMA was asked to improve the dewatering of biological sludge from a centrifuge process.

The site faced several challenges:

- Poor sludge dewatering, driving high disposal volumes and costs
- Limited operational flexibility with the existing emulsion polymer
- High tap water consumption, impacting sustainability targets

The customer needed a solution that would enhance performance, simplify operations and support long-term environmental goals.

OUR SOLUTION

Following an initial consultation, OQEMA's Water Treatment experts visited the site to assess the process conditions and collect representative sludge samples.

An extensive laboratory evaluation showed that a polymer with a higher molecular weight and stronger structure would be better suited to the application. Based on these findings, Q-FLOQ WX 532 was selected to deliver improved flocculation performance and higher final dry matter content in the sludge cake.

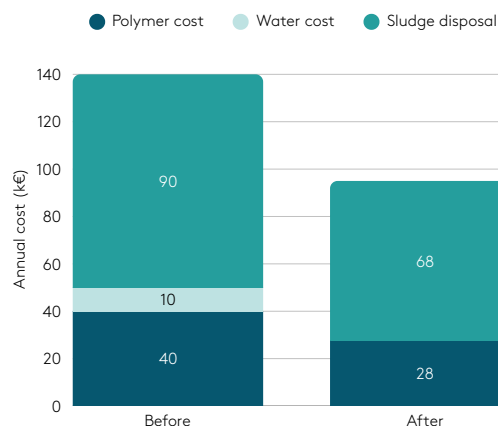
Beyond improved dewatering, Q-FLOQ WX 532 enables direct, undiluted dosing into the centrifuge. This removes the need for clean tap water to prepare diluted polymer solutions. After a detailed on-site inspection, the optimal injection point was identified and a full-scale, long-term trial was initiated.

RESULTS & CONCLUSIONS

When dosed at comparable levels, Q-FLOQ WX 532 increased sludge dry matter from 15% to up to 20%, reducing total sludge cake volume by 25% and lowering disposal costs.

Undiluted, direct injection eliminated the need for clean water in polymer preparation, saving approximately 2 million litres of tap water per year. At the same time, direct dosing simplified operations, allowing operators to adjust dosage within seconds rather than waiting up to 30 minutes. The result is a more efficient, flexible and sustainable sludge dewatering process.

Cost comparison polymer optimisation



Expert spotlight

"Direct, undiluted dosing allowed the customer to respond instantly to changing sludge conditions — that was the real game changer."

— Roel Vanesch, Area Sales Manager, OQEMA

