



# Case Study

## A Sugar Factory Wastewater Treatment Plant Experiences a Large Reduction in BOD/COD Levels

The Newterra® Aire-O2® Triton Systems provides a reliable, efficient solution in a challenging environment

**Market Served:** Agricultural  
**Application:** Wastewater Treatment  
**Location:** Nador, Morocco  
**Challenge:** Reduction of BOD/COD Levels  
**Solution/Service:** 20 Aire-O2 Triton Systems

### Summary

The Suerafor sugar-factory wastewater treatment plant was challenged to meet stringent Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) standards. In this corrosive environment, sludge from previously installed equipment was an issue. Twenty (20) Aire-O2 Triton systems were installed to combat the environment's high organic loads and product reliability issues. **BOD loads have been reduced by 99%, COD levels are well below standards**, and sludge does not build up.

### The Client

Suerafor is a sugar beet processing plant in Nador, Morocco. It is part of the five companies that comprise the **Cosumar Group**, a manufacturer specializing in the extraction, refining, packaging, distribution and export of sugar.

### The Challenge

Suerafor designed a wastewater treatment plant to maintain high organic loads through anaerobic, anoxic and aerated lagoons, which crush more than 5,000 tons of sugar beets daily. The plant operates for 90 days during beet processing, and the aeration equipment must be fully functional and efficient after downtime during the growing season. Suerafor was challenged to meet stringent BOD/COD standards and provide a mechanically sound, reliable solution. Due to the high organic loads and tightening BOD/COD standards, the Newterra Aire-O2 Triton Systems were installed.

### Solution

Since sludge was an area of concern from the previously installed equipment, engineers at Newterra helped solve sludge issues

by effectively keeping solids suspended in the aeration basins. Newterra provided 20 20hp/15kW Aire-O2 Systems to achieve this. The equipment was specially designed with anti-erosion baffles to start at a water level of 4.43' (1.35m) as the processing comes online and fills to a max level of 9.84' (3m) water depth. The stainless components were built to withstand the corrosive environment allowing for no reduction in aeration efficiency.

### Results

The wastewater plant is operating efficiently with the Aire-O2 Triton Systems and sludge does not build up in the aeration basin; saving the plant time and money. After three years, the installation has positioned the mill to produce more sugar, and the plant can take on an extra load. The BOD loads have been reduced by 99%, and COD levels are now well below the required standards.

*“We're very satisfied with the Triton's performance... the plant is now able to handle the increased load without further investment into the wastewater plant”*

### Impact

Salah Nahid, Director of Suerafor, was very satisfied with the Aire-O2's Triton's strong performance. The plant now easily handles the increased load without further investment into the wastewater plant, providing significant cost savings. Maintenance has also been simplified, especially at the end of the crucial harvest season. Nahid and his team are confident in the equipment today and know that the system will be ready to work during spring start-up as Suerafor prepares for many successful future harvests.

### What's Your Unique Water Question?

Contact us at **+1.951.448.6789** to solve your most challenging water issue.