

## WASTERed


### Waste reduction and process optimisation in the European meat and dairy industry

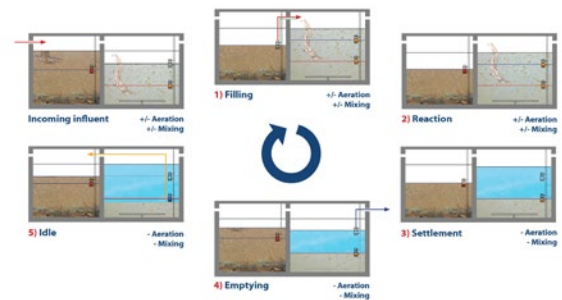
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#### INFORMATION ON THE ECO-INNOVATIVE SOLUTION PROVIDER

This eco-innovative solution is the output from the project titled “WASTERed” co-funded by the European Commission within the framework of the Competitive and Innovation Program. This solution has been developed by a team coordinated by BIOAZUL S.L, SPAIN, in partnership with TTZ-Bremerhaven (D), the Spanish Federation of Food and Drink Industries (ES), the Andalusian Cooperative Cattle Raising Corporation of the Valley of the Pedroches (ES), PROWATER SP.J (PL), Brenntag GmbH (DE), European Livestock and Meat Trading Union (B). The project was completed in 2011.

#### SHORT DESCRIPTION OF THE ECO-INNOVATIVE SOLUTION

LODOred100k is a fully natural and fully biodegradable liquid concentrate added to the biological wastewater treatment process, leading to a natural reduction in sewage sludge generation of up to 30%. It substantially reduces the locally generated waste (surplus sludge), as well as that of the meat and dairy industry wastewater plants. In addition, LODOred increases the energy efficiency and decreases the chemical substances in the treatment process, achieving important cost savings for the end-users.

#### INDUSTRIAL SECTOR – MARKET SEGMENT AND ACTUAL APPLICATION IN INDUSTRY

49 Electric, Gas and Sanitary Services

#### INDUSTRIAL CLASSIFICATION - NACE CODE;

37 Sewerage

## 1. DESCRIPTION OF ECO-INNOVATIVE SOLUTION

### Technical aspects of the eco-innovative solution

LODOred products are a preparation based on a recipe consisting of encapsulation and auxiliary substances in combination with vitamins in an aqueous solution. Once added to activated sludge, it encapsulates microorganisms and leads to the formation of compact activated sludge flocs. These flocs may also incorporate small suspended mineral particles leading to an increase of floc density which simultaneously improves the settlement abilities in the clarifier.

The effects and advantages of LODOred at a glance:

- Non-hazardous, non-toxic, fully biodegradable product, composed of ingredients of food additives grade
- Up to 50% reduction in biological surplus sludge / waste generation
- Improvement of sedimentation abilities (SVI)
- More stable biological treatment process
- Improved effluent quality, e.g. BOD, COD, N, P, suspended particles, etc.
- Biological system less sensitive to shock loads
- Improved dewatering (reduced polymer consumption, less time for sludge dewatering required, reduced energy consumption, increased equipment lifetime, lower labor costs)
- Reduced negative environmental impacts of wastes from wastewater treatment

### Economic and environmental benefits of the eco-innovative solution

One unit of LODOred is a 30L canister of liquid concentrate and it costs 250€/30L. For each 1€ invested, 2-3€ will be saved. By affecting microbial metabolism in wastewater treatment, LODOred 100k significantly reduces surplus sludge production by 30%. As a reference: for every 10,000 PE (population equivalent) 1 liter of LODOred will be added. 1 PE produce 60 g of BOD/d so, if a plant has an intake of 600 kg/d of BOD, the plant would treat 10,000 PE and the dose would be 1 liter per day.

Benefits are summarized below:

- 25% savings on energy/water/materials per unit of product compared to conventional solutions available on the market
- 30% reduced pollution loads per unit of product compared to conventional solutions available on the market
- 20% cost savings compared to conventional solutions available on the market

## 2. AVAILABILITY OF THE ECO-INNOVATIVE SOLUTION AND BUSINESS PARTNERSHIP

### Market readiness, Trade mark, existing market coverage, commercialization strategy

Since 2006, LODOred100K has already been deployed in Spain, Germany, Poland, Switzerland and Austria. It has been successfully tested in several food industries (especially the meat industry).

### Requirements to adapt the solution to the local market and potential applications/market size

The substance can be applied very simply. The daily dosage depends on the amount of organic load in the WWTP.

### On-site after-sales services support and the technical assistance requirements

No after sales service needed; the dosage and savings will be calculated before application.

### Targeted local business partners

Distributors/suppliers to wastewater treatment plants

### Type of local business partnership sought

Distribution agreement