

## **EcoFlush and EcoGrease for water treatment at a fish processing plant**

**Products:** EcoFlush - EcoGrease      **Trial setting:** Fish processing plant  
**Location:** Huila, Colombia

**Supervised by Reinaldo Ramirez of Tecnoaqua, Colombia**  
**[www.tecnoaquasas.com](http://www.tecnoaquasas.com)**

### Objective

Reduction in organic matter and grease in outflow from a fish processing factory.

### Methods

250 liters of water contaminated by waste from the fish processing plant were taken and split in two 55 gallon drums set up with aeration, using diffusion stones at the end of the hoses to produce fine bubbles.

Set up used for the trials at the fish processing plant.



EcoFlush was incubated for 18 to 24 hours following the recommended procedure at a concentration of 10 grams of EcoFlush per liter of water. EcoGrease was added directly to the system. Sugar was added to the water to supply some carbon and balance the C:N ratio.

Initial samples of the water condition were taken as well as after 48 hours of treatment.

Five trials were carried out in order to find out the most economical program using the least amount of products, each time reducing the amount of EcoFlush and sugar used.

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Waste water	125 L	125 L	125 L	125 L	125 L
EcoFlush	5 L	2.5 L	1.25 L	0.5 L	0.1 L
EcoGrease	2 gr	2 gr	2 gr	2 gr	2 gr
Sugar	1 kg	0.5 kg	0.25 kg	0.1 kg	0.02 kg
CFU of EcoFlush/ml	$4 \times 10^7$	$2 \times 10^7$	$1 \times 10^7$	$4 \times 10^6$	$8 \times 10^5$
CFU of EcoGrease/ml	$8 \times 10^4$	$8 \times 10^4$	$8 \times 10^4$	$8 \times 10^4$	$8 \times 10^4$

## Results

All treatments were successful at improving the water quality at the fish processing plant. The results from the last trial are presented below.

	Smell	Color
Before treatment	Rotten	Reddish
After 48 hr treatment	Compost	Transparent

## Water color change

Initial water sample



Sample after 24 hours of treatment



	COD mg O <sub>2</sub> /L	BOD5 mg O <sub>2</sub> /L	Total Organic Carbon mg TOC/L	Grease and oil mg/L
Before treatment	1512	548	620	108.7
After 48 hr treatment	479	287	197	29.4
% reduction	68.32	47.63	68.23	72.95