



Case study:

Buena Ventura Livestock Group,

Chiapas, México. 2006.

In 2005, Buena Ventura Livestock Group (BVG in Spanish) had a WWTP whose capacity was insufficient to treat the wastewater of the poultry processor due to inadequate design.

In addition, there was a program to increase production and go from 75,000 to 150,000 slaughtered birds per day. Due to the above, the pressure to rise the wastewater treatment capacity increased.

On the other hand, BLG wanted to reuse the treated water to decrease the first-use water supply problem; likewise reduce the high cost of pumping that goes from a stream to the poultry processing plant.

Client problem

The wastewater discharged by the processing plant had a high concentration of polluting material:

- Thick solids
- Chemical Oxygen Demand (COD)
- Biochemical Oxygen Demand (BOD)
- Total Suspended Solids (TSS)
- Fats and oils
- Ammoniacal nitrogen

IBTech®'s solution

IBTech® proposed a physicochemical process to reduce the turbidity in first-use water coming from a stream. It consisted mainly of a clariflocculator tank and a high rate sedimentation tank.

For the wastewater treatment, IBTech® proposed a process, a high-level treatment, which involved purifying the treated wastewater. The stages of the process were integrated as follows:

- Pretreatment, screen and press for feathers, screen for viscera and fine screen
- Primary treatment, equalization tank and dissolved air flotation (DAF)
- Secondary biological treatment, UASB reactor (4 modules to have a flexible process), followed by two SBR reactors with control algorithm designed for water polishing and nutrient removal.
- Advanced tertiary treatment, using ozone system, sand and activated carbon filters and disinfection with sodium hypochlorite.

Results Once the project was completed, the following was achieved:

- Compliance with water quality requirements for discharge
- Contamination of soil and aquifers was avoided
- Sources of infection and proliferation of pests were avoided
- Potabilization of treated wastewater to be reused in carrying activities of blood, feathers and viscera of the processing plant, as well as for green-areas irrigation.
- Mitigation of water demand from the stream for washing floors and boxes.



UASB anaerobic reactors



Sequencing Batch Reactor (SBR)



Filtration system



Sludge decanter

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