

## GOOD PRACTICES AND TECHNOLOGIES

Reducing Footprint in Water

El Agua Nos Une – Suiza Agua América Latina



Construction and Operation of the Farallones Processing Plant

Colcafé

SDG : 6.3. Improvement of water quality  
6.4. Water efficiency  
7.2. Renewable energy



### Company / implementer

De los Andes Cooperativa

### Sector:

ISIC 4631. Wholesale of food products

### Location:

Ciudad Bolívar, Antioquia, 5.796403, -76.002489

Update: 16 Jan. 2018



### Results

- Reduction of **78%** in the water used for the processing of coffee in cherries, equivalent to **6.5 m<sup>3</sup>** of water per ton of coffee in cherries. This represents **29,390 m<sup>3</sup>** of water saved per year.
- Replacement of **100%** of the coal used in the coffee drying process at the dry parchment coffee farms, which are now suppliers of coffee in cherries for the Processing Plant, with coffee husks.
- Reduction of **37,680 m<sup>3</sup>/year** of wastewater discharging directly into surface water source within the process at the farms



### Other benefits

- Improvement in the quality of life for the coffee growers due to the reduction in working hours for processing of coffee in cherries.
- Minimization of risks of loss or theft of dry parchment coffee at the farms.
- Standardization of the processing process.
- Reduction in the quantities of dry parchment coffee rejected due to product quality.
- Participation of coffee growers in training, prevention and cultural programs.
- Savings for the coffee growers of **USD 80/ton** of dry parchment coffee produced associated to the direct cost of the processing (labor, energy, maintenance and investment in infrastructure).



### Supplier References

**Supplier of coffee processing technology:** JM Estrada S.A., supplier of coffee processing technology.

**Contact information:** Jorge Estrada.

**E-mail:** [jestrada@jmestrada.com](mailto:jestrada@jmestrada.com)

**Supplier of wastewater treatment plant:** Incol Aguas

**Contact information:** Sergio Hernández.

**E-mail:** [sergio.hernandez@ingcolaguas.com](mailto:sergio.hernandez@ingcolaguas.com)



### Implementing Company

**Implementing company:** DelosAndes Cooperativa  
Andes, Antioquia

**Contact information:** Juan David Rendón.

**E-mail:** [juan.rendon@delosandescooperativa.com](mailto:juan.rendon@delosandescooperativa.com)

<http://www.delosandescooperativa.com>

**Donor:** Colcafé S.A.S

**Contact information:** Hugo Andrés Santamaria

**E-mail:** [hsantamaria@colcafe.com.co](mailto:hsantamaria@colcafe.com.co)



### Description

Coffee in cherry processing plant in which coffee cherries are purchased from 612 families settled within its area of influence, with capacity to process 6,000 ton/year of coffee in cherries. In this plant the most modern equipments with the latest technology for pulp removal, fermentation, classification, washing and drying coffee are used to obtain the highest efficiency in the process; minimizing energy, fossil fuel and water consumption, without impacting the quality of the coffee.

Additionally, the results of research and development for processing coffee wastewater treatment developed in the country are applied, minimizing the environmental impact associated to wastewater discharged directly into surface water source.



### Investment and Operating Costs

#### Investment Costs:

- Construction and assembly: USD 1,828,000
- Machinery and equipment (wet and dry processing with automatic husk supply): USD 832,000
- Wastewater treatment plant for coffee processing: USD 190,000
- Caterpillar composting-compact loader: USD 7,352

**Operating Costs:** operating costs include qualified labor for administrative duties, coffee quality verification and operation of coffee processing machinery and equipment; maintenance of equipment and infrastructure, wastewater treatment, among others



### Cases of Application

Jardín La Arboleda Processing Plant.

Andes La Chaparrala Processing Plant (being built).



### Recommendations and Limitations

- Long processing plant construction, start-up and standardization times, which increased the costs of the project.
- Complexity of the operation of the wastewater treatment plant due to the production peaks of the process.
- Long time for the operation stabilization because of the number of variables that need to be controlled.



### References

<http://www.delosandescooperativa.com/2015-06-04-19-39-06/centrales-de-beneficios.html>

