

CASE STUDY

Liquid condiments

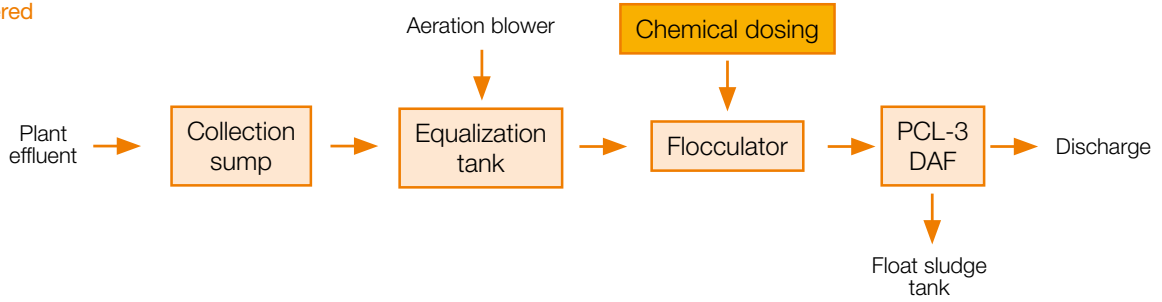
The facility processes various fruit and vegetable ingredients into household branded jams, jellies, and syrups.

64.4 cubic meters of wastewater is generated as equipment and the production area are washed and sanitized. The wastewater is laden with organic solids, oils, and cleaning chemicals.

The wastewater treatment system is designed to process the day's flow in approximately eight hours and includes preliminary screening, flow equalization, physical/chemical treatment, and sludge collection equipment.



Solution delivered



Equipment supplied

- 64.4 m³/d aerated EQ tank
- PCL-3 DAF system
- F-2 flocculator
- Chemical dosing panels
- Electrical control panel

	Design parameters	Discharge requirements
Flow	64.4 m ³ /d	
TSS	3'500 mg/l	100 mg/l
FOG	250 mg/l	50 mg/l

DAF sizing calculations

Hydraulic surface loading rate

$$= \frac{\text{Feed flow + recycle flow in m}^3/\text{h}}{\text{Effective surface area in m}^2}$$

$$= \frac{9.1 + 3.2 \text{ m}^3/\text{h}}{x \text{ m}^2} = 2.4 \text{ m}^3/\text{m}^2/\text{h}$$

$$= 5.1 \text{ m}^2 \text{ required}$$

Solids loading rate

$$= \frac{\text{Weight of TSS in feed in kg/h}}{\text{Free surface area in m}^2}$$

$$= \frac{9.5 \text{ kg/h}}{x \text{ m}^2} = 19.5 \text{ kg/m}^2/\text{h}$$

$$= 0.49 \text{ m}^2 \text{ required}$$

