

LambWeston: Possible effective techniques to remove sunflower oil from wastewater streams.

Problem description

During Lamb Weston production and cleaning process oil (sunflower) comes into the wastewater stream. The oil strongly disturbs the operation of the anaerobic bioreactor. Therefore the oil must be removed from the wastewater stream before entering the anaerobic bioreactor. The oil is currently separated from the wastewater stream by an efficient dissolved air flotation (DAF) unit. However, the effluent of the system does not always meet the required specifications of <50 ppm oil. Lamb Weston is looking for an effective technique to remove the oil from the wastewater stream. This can be in sequence with the current used DAF unit or a complete replacement.

Current known technique(s)

- Dissolved Air Flotation (DAF)
- CINC Centrifuge technology ([AUXILL](#))
- Hydrophobic oil/water separation mats

Objective(s)

- Oil concentration <50 ppm
- Process speed >80 m³/h

Constraints

- Robust system
- Operate at 35 °C