

Pork Processor May Save Potential \$200,000/Yr* in Surcharges

TEQUATIC™ PLUS Filter Catches DAF Carryover



The Challenge

- Plant was paying \$25,000/month on wastewater surcharges due to carryover from DAFs during night wash-down period.
- Previous post-DAF, self-indexing paper filter was too costly in terms of space, consumables and labor.



The Solution

- Install TEQUATIC PLUS F-75 system after the DAF, replacing the self-indexing paper filter to further remove solids from DAF effluent.



The Results*

- Reduced TSS from >1000 mg/L to about 200 mg/L.
- Achieved significant BOD reduction (>50%).
- Expect ~\$200,000/yr surcharge savings vs. no post-filter.
- Expect >\$70,000/yr in direct OpEx savings vs. paper filter.
- Realized less space and labor vs. storing and replacing paper rolls.

*Results may vary depending on specific operating conditions



Pork Processor Could Save Potential \$180,000/Yr*

TEQUATIC™ PLUS Filter Reduces TSS Load on DAF



The Challenge

- Plant pays \$25,000/month on DAF chemicals.
- Plant pays \$1000 per 3500 lbs (1590 kg) of waste sludge (>60 miles / 96 km haul).



The Solution

- Use TEQUATIC PLUS Filter to screen out solids prior to DAF in conjunction with screw press to dewater the filter's concentrate stream.



The Results*

- 50% reduction in TSS.
- 60% reduction in chemicals (due to less coagulant/flocculent).
- 30% reduction in waste sludge weight. Dewatered concentrate at 20% solids vs DAF sludge at 8% solids.
- Potential chemical savings: \$180,000/yr.

*Results may vary depending on specific operating conditions



Meat Processor Cuts DAF Chemicals By >40%

TEQUATIC™ PLUS Filters Feed Consistent Particle Size



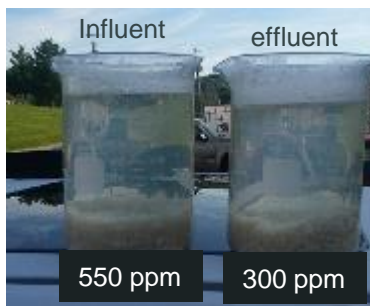
The Challenge

- Plant for further processing of meat products pays \$30,000/month for DAF polymer/coagulant on 200,000 gallon/day system.
- Wastewater particularly nasty due to very high FOG (up to 1%).
- Wide range of particle size distribution in the DAF made it difficult to manage float; solids-build-up forced frequent shutdowns for cleaning.



The Solution

- Use TEQUATIC PLUS Filters as a pretreatment to DAF to remove “problem” particles and deliver consistent particle size distribution to DAF.
- Particle size control will help reduce DAF chemical costs, improve DAF uptime.
- Filters are self-cleaning, automated and low maintenance (no operator intervention).



The Results^{1,2}

- Consistent particle size delivered – all particles <50 micron removed.
- Jar testing suggests >40% reduction in coagulant required.
- Chemical savings potential of >\$150,000/year.
- Payback: <12 months achievable.

*Coagulant dosing required to achieve floc.
Left beaker before TEQUATIC™ PLUS Filter; right beaker after treatment.*

¹Results may vary depending on specific operating conditions.

²Tests and trialing for this application were performed jointly by IER Environmental Systems and Dow.



Meat Processor Could Save Potential \$180,000/Yr*

TEQUATIC™ PLUS Filter Reliably Removes TSS/BOD



The Challenge

- High municipal surcharges for BOD/TSS in slaughterhouse effluent, >\$300K / year.
- High TSS, organic loading and paunch (hay) make traditional filtration extremely difficult.



The Solution

- Use the TEQUATIC PLUS Filter to separate solids from wastewater prior to sending down the drain.
- Removing solids also removes BOD in solid form.
- Concentrate sent to existing screw press for dewatering.



The Results*

- 75% reduction in TSS.
- Ran reliably in difficult conditions.
- Potential surcharge savings: 60% or ~\$180,000.

*Results may vary depending on specific operating conditions



Beef Processor Could Save Potential \$250,000/Yr* in Water

TEQUATIC™ PLUS Filter Enables Water Reuse



The Challenge

- Drought increasing water costs for slaughterhouse plant.
- Plant pays \$6/1000 gal (\$1.6/m³) combined for water and wastewater.
- Opportunity to save 150,000 gpd (568 m³/day) of city water by reusing DAF effluent to clean drum screen, but need effluent clean enough to keep spray bars from clogging.



The Solution

- Use TEQUATIC PLUS Filter to screen out solids from DAF effluent in the 10-30 micron range.



The Results*

- Good runnability on DAF effluent.
- 80% reduction in TSS at filter.
- Potential savings in water costs: \$250,000/yr.

*Results may vary depending on specific operating conditions

