CASE STUDY: MEAT & SMALLGOODS

AJ BUSH & SONS, PROTEIN RECOVERY

CLIENT:

AJ Bush & Sons - protein recovery (in the form of tallow) from meat offcuts and processing byproducts.

SITUATION:

The site utilises biogas recovery to co-fire boilers via methane capture from covered anaerobic lagoons (CALs). The lagoons are sensitive to organic load and consequently require a clean wastewater stream ex-processing to remove excess fats to maximise microbial activity.

WASTEWATER:

Wastewater is generated from three sources: the tallow production process, washdown and condensates

VOLUME:

3,700 tonnes of meat byproducts per week
500,000L water per day

OUTCOMES :

Processing rate: 50,000L/hr
Fat content: 5,000mg/L (input), 400mg/L (output)
Fat recovery significantly increased for resale
Biogas capture targets met

EQUIPMENT SUPPLIED:

S2 Skimmer, Strainer, HD50 Separator, Pump, 2 x 5,000L decant tanks

COMMISSIONED:

August 2014

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TREATED WATER OUTCOMES

The bottles at right show samples of the wastewater streams.

Left: Untreated water from the inlet feed, containing fats and proteins

Centre: Treated water from the Ultraspin system. Some fats and proteins have been allowed to settle. No fats remain on the surface.

Right: Separated fat stream. The fats on the surface will be collected in the decant tank and are free from contaminants and chemicals. No proteins remain. The water component is sent to the CALs

AJ Bush covered lagoon for biogas recovery needs treated water

"The system (from Ultraspin) is of enormous benefit - we have reduced our carbon footprint, maximised biogas recovery and recovered significantly more fat from the wastewater streams.

We could not have done it with a DAF or centrifugal separator without spending considerably more time and money on chemical balancing, heat transfers, maintenance and monitoring.

Furthermore, the fat recovered is free from chemicals and contaminants and can be resold."

John King, plant engineer, AJ Bush & Sons

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