Optimizing production is a question of reducing variations

CHALLENGE

College Group is a leader in its field in terms of innovation and expertise in rendering. In the past decade the College Group has increased output and quality of finished goods, while reducing its carbon footprint at the same time.

The Category 1 facility has the capacity to process meat and bone meal that is an important source of green energy. The material is processed into fuel at the College Group headquarters in Meath. As College Proteins continues to grow and innovate they decided to look for ways to make their current processes more sustainable and stable. They were experiencing:

- Variations in the exit temperatures for the preheater and the dryers, sometimes causing overcooking or undercooking.
- Associated increase in energy consumption.
- Variations in press amperage, sometimes giving insufficient separation, meaning lower fat yield and more energy usage to dry the press cake.
- Losing optimization potential regarding the flow through the evaporators.

Industry
- Meat and Bone Meal

Process optimized
- Wet Rendering
- Pre-heater
- Twin Screw Press
- 2-Stage Evaporator
- 2 Dryers

Country
- Ireland

Company
- College Proteins

SOLUTION

In 2017, College Proteins was introduced to CORE's Advanced Process Control (APC) package. Implementing CORE APC for their preheater, wet press, 2-stage evaporator system and two dryers, the low temperature process was optimized, and a far more stable production was achieved. This has allowed College Proteins to improve their energy efficiency and fat yield,

RESULTS

After adding CORE APC to the their operation, College Proteins achieved:

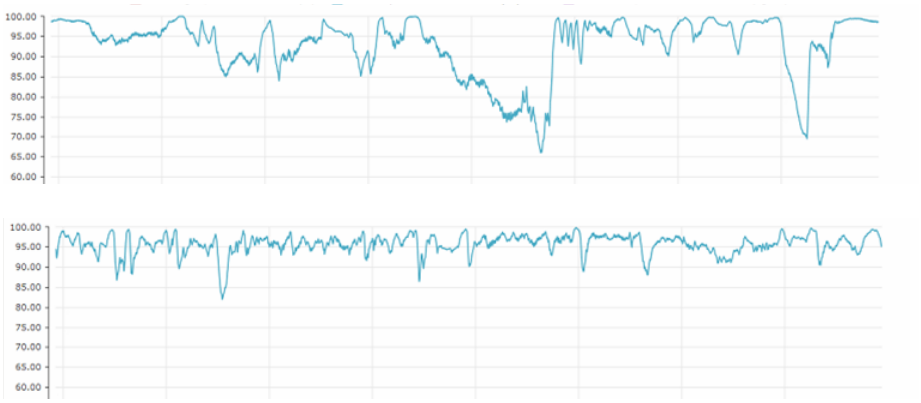
- **> 7 %** decrease in thermal energy consumption
- **35 %** reduction in temperature variations
- **43 %** increase in press torque, leaving less water and fat in the press cake
- **30%** reduction in torque variations

"We are very satisfied with the CORE controllers that bring stability to our rendering processes. With CORE we have improved our throughput and the energy efficiency."

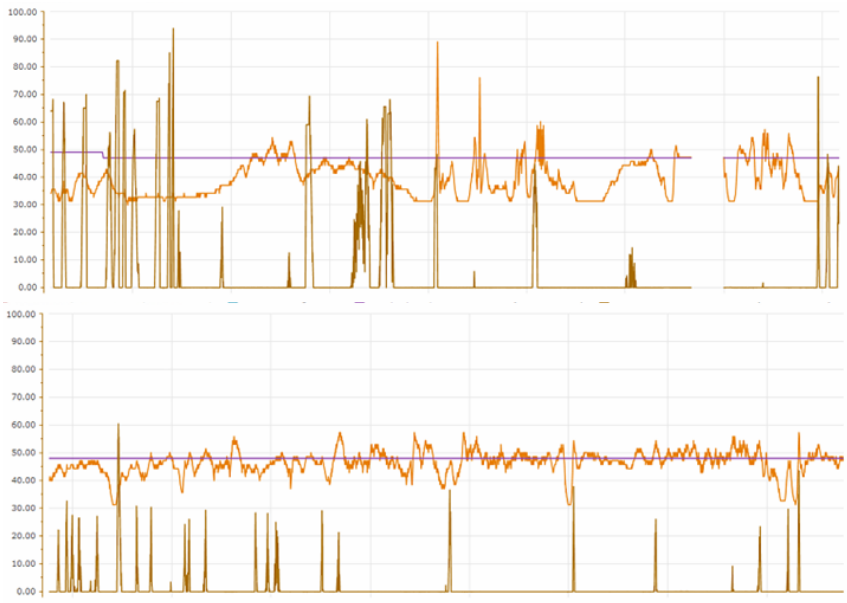
- Pat Woolley
College Group

STORY DETAILS

The 48-hour trend curves below illustrate some of the results obtained by the implementation of the advanced CORE controllers on College Proteins' pre-heater and wet-press.



Pre-heater - Discharge temperature over 48 hours.
Top: Without CORE control. Bottom: With CORE control.
Variations were reduced by 35% and temperature kept near 95°C.



Press - Torque variations over 48 hours.
Top: Without CORE control. Bottom: With CORE control.
The average press torque was increased by 43%.

Reduce your carbon footprint!

CORE's controllers at College Proteins saves the environment for more than 600 tons CO_2 – every year!

CORE BUSINESS VALUES

Advanced Process Control

- Improved stability
- Consistent quality of the final product
- Higher throughput, capacity and yield
- Reduced energy costs
- Reduced maintenance

CORE SERVICES AVAILABLE

CORE's optimization package

- Remote support
- Controller monitoring
- Optimization
- Visualization
- On-site visits
- Examination reports

About CORE A/S
The DNA of CORE is about stable sustainable savings. We are focused on optimizing your energy efficiency, yield, product quality, capacity, reducing the level of your investment and increasing your profit. We deliver the world's most sophisticated advanced self-learning controllers, which within a few years have spread across the globe based on the significant savings CORE has provided, especially to the industry for animal by-products and fish processing.
A partnership with Haarslev Industries was established in 2016.

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