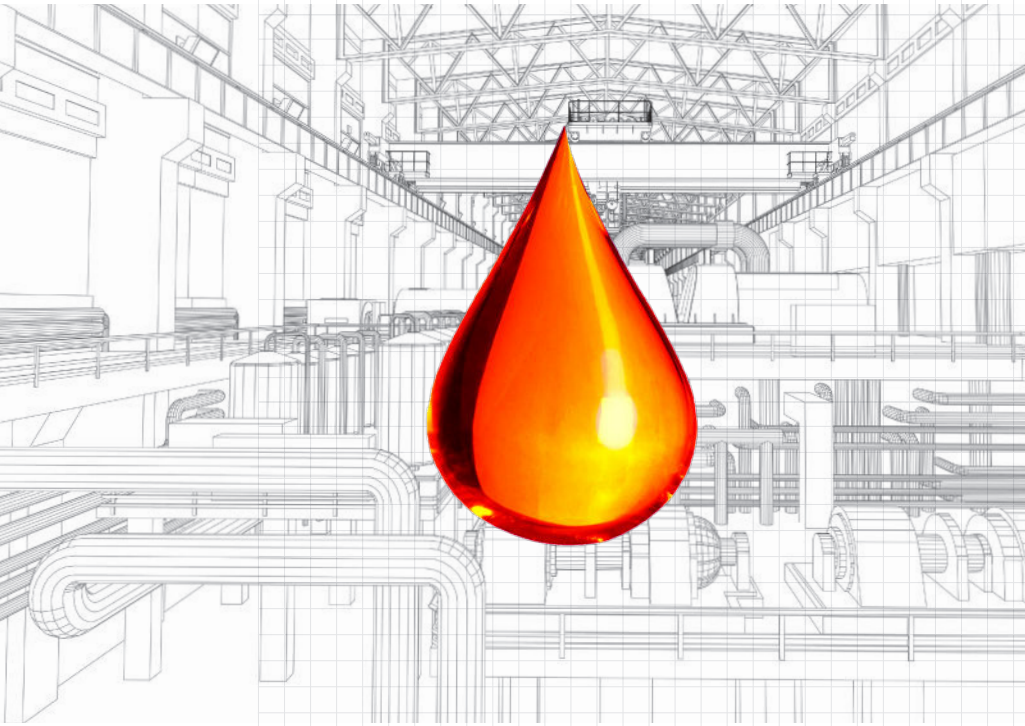


# Corn Oil Optimization Programs

Maximize Your Distillers Corn Oil Potential



## PROGRAM HIGHLIGHTS

- Process Analytics
- Plant Evaluation
- Data Trending
- Expert Consultation
- Customer Portal
- Process Improvement
- Leading-edge Analytics

$$V = \frac{d^2 (\rho_w - \rho_o) r \omega^2}{18\eta}$$

## Best Practices, Proven Results

As a technology and service provider in the industry since 2005, Trucent has enabled plants to extract valuable Distillers Corn Oil (DCO), helping to improve margins through lean times.

Plants strive to capture the maximum amount of corn oil at a consistent production.

Trucent has employed a team of chemists and engineers that have gained a deep understanding of factors that effect corn oil extraction. We have developed programs that give plants not only a quick ROI but peace of mind that they have a partner to help maximize corn oil extraction.

## The Result

We've helped over a third of the nation's ethanol plants increase their profitability by maximizing corn oil yield with little to no capital investment.

## DCO Plus

A comprehensive program in which we understand the variables in corn oil extraction through a comprehensive database of plant data, proprietary analytical techniques, and process analytics.

We guarantee that this program will result in process improvements that lead to documented cost savings or revenue improvements within the first year.

$V_c$   
centrifugal settling velocity (m/s)



$d^2$   
droplet size (mm Ø)



$\rho_w$   
heavy phase density (kg/m<sup>3</sup>)



$\rho_o$   
light phase density (kg/m<sup>3</sup>)



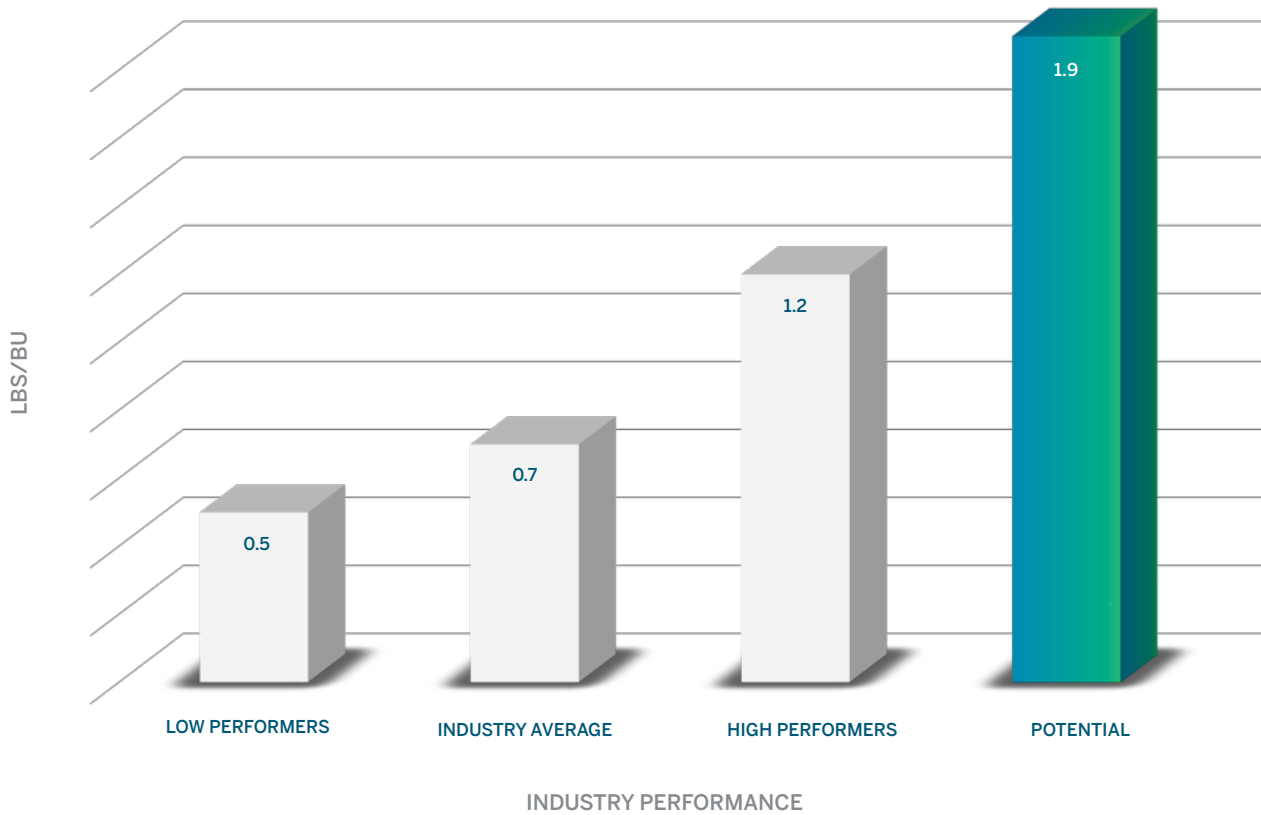
$\eta$   
continuous phase viscosity (kg/ms)



$r\omega^2$   
centrifugal acceleration (m/s<sup>2</sup>)



## Reach Your Full Potential



### DCO PLUS

- A comprehensive, full plant unit operations sampling, oil and solid analysis for a statistically significant oil and material mass balance (“Process Analytics”)
- Onsite plant evaluation during Process Analytics to evaluate process flow and plant operations that can affect corn oil extraction (“Plant Evaluation”)
- Presentation to plant management on results of the Process Analytics and Plant Evaluation, to include plant data comparisons to reference plants and KPIs, and specific recommendations on process improvements to improve oil yield
- Technical, analytical and engineering support for implementation of recommendations
- Monthly consultations

### OIL TRACKER PROGRAM

The objective is to track the efficiency of extraction at each of the corn oil extraction units in the ethanol plant. It saves the plant operator’s time and enables them to focus on the production of ethanol.

- Weekly tracking of syrup quality and process parameters that affect oil quality
- Client dashboard to monitor oil trends and alerts when factors are changed that affect oil extraction
- Monitor and evaluate oil production changes through small-scale trials to full-scale technology adoption.

### DCO REPORT CARD

Presentation to ethanol plant management on findings of the Process Analytics and Plant Evaluation, to include plant data comparisons to reference plants and KPIs, and specific recommendations on process improvements to improve oil yield.