



## New Additive Increases Corn Oil Yield and Provides Cleaner Oil in Disk-stack System

*Ashland™ PTV M-5309 corn oil extraction aid*

### Customer Overview:

- Segment: Biorefining
- Products: Fuel ethanol, DDGS, wet cake, syrup and corn oil
- The corn oil is sold to the biodiesel industry and the other products are sold as animal feed
- Location: Midwest United States

### Application Overview:

- System: A Disk-stack centrifuge used for corn oil extraction
- Capacity: 50 MM gallons of fuel ethanol per year
- Oil processing unit typically treats 45 gpm of syrup
- Syrup solids are typically 28%

### Existing Treatment:

- No full-time treatment was used.

### Problem Summary:

After installing a corn oil extraction system at significant capital expense, the plant's anticipated corn oil yield was not achieved. As the return on investment was not being realized, plant management recognized the potential of the PTV M-5309 extraction aid to increase corn oil production and improve the return on capital.

### Customer Objectives:

- Increase corn oil yield
- Maintain corn oil quality (solids and moisture)
- Meet feed quality specifications (Profat Tag)

### Ashland Solution:

With a long history in developing chemical innovations for process improvement, Ashland Water Technologies developed a new product that increases corn oil yield and improves corn oil quality in plants producing 50 to 100 million gallons of

fuel ethanol per year. The product, which is marketed as Ashland PTV M-5309 corn oil extraction aid, works under a wide variety of operating conditions and can be used with both Disk-stack and Tricanter centrifuges.

Ashland's corn oil extraction aid contains no APEs or VOCs and is biodegradable, kosher certified and generally recognized as safe (GRAS). Additionally, Ashland has a pending patent application for use of PTV M-5309 in corn oil extraction.

Ashland technical and sales specialists reviewed the customer's corn oil production process and recommended the new extraction aid. During the plant audit, feed points were identified. Due to the extreme variability in oil production, an extended trial of the extraction aid was approved by plant management.

During the trial, the feed rate for the extraction aid was adjusted to provide maximum corn oil production. In addition, profit contributions were calculated and confirmed by the plant on a daily basis.

### Customer Benefits:

- Corn oil yield was increased by 500,000 gallons per year, which increased profits more than \$1 million per year
- Corn oil quality (solids and moisture) was improved
- Feed quality specifications (Profat Tag) were met

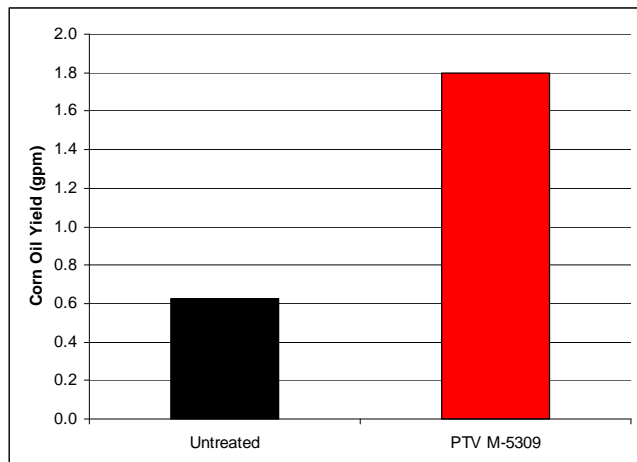
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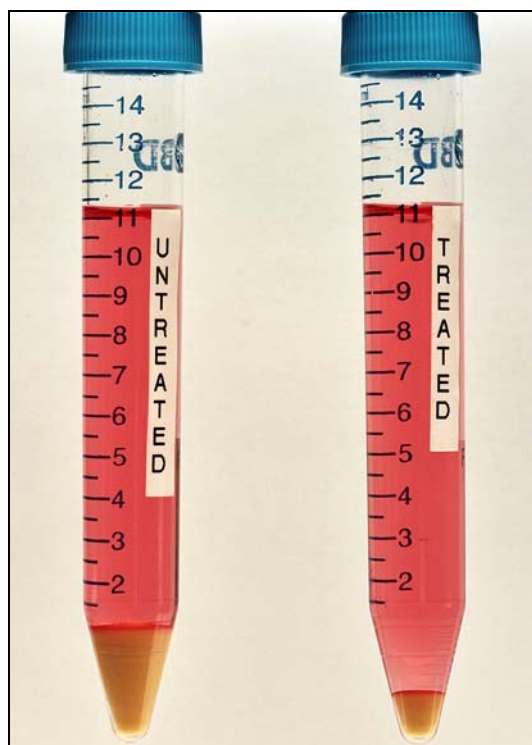
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**Conclusion:**

The PTV M-5309 corn oil extraction aid was easy to implement and was compliant with all critical regulations. The plant continues to utilize the extraction aid and reap the benefits of increased corn oil production.



**PTV M-5309 Corn Oil Extraction Aid Increases Corn Oil Production by 200%.**



**PTV M-5309 Corn Oil Extraction Aid (Tube on Right) Improves Corn Oil Quality.**

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