



NEWS

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Performance Tests of CPT Corn Dry- Fractionation Technology Exceed Guarantees

JEFFERSON, WIS. – Performance tests at the world’s largest corn dry fractionation facility at Renew Energy’s 130-million-gallon ethanol plant here proved Cereal Process Technologies’ promise for higher alcohol content, lowered energy costs and new revenue streams to ethanol producers, CPT executives said today.

Renew Energy’s facility, which uses CPT’s patented fractioning process, proved in sustained testing last week consistent production of high-starch streams into the ethanol plant and the separation and capture of more valuable co-products, including corn germ and corn bran. The facility also is producing higher-protein stillage, which Renew has trademarked and sells as “Renew Meal.”

CPT is headquartered in Bridgeton, Missouri. The company’s process is based on a grain milling and corn-germ-separation application developed by veteran miller Jim Giguere in the 1960s.

Giguere sought to improve corn milling to recover a higher amount of the corn kernel’s starch by separating it from the kernel’s bran fiber and oil-rich germ, each valuable co-products. Fractionation is the term that describes the separation of these three components.

The performance tests at Renew Energy were proof, CPT officials said, of the promise of fractionation to re-energize the corn-based ethanol industry and achieve sustainability.

“High prices for feedstock and lower product values have squeezed ethanol producers’ margins,” said Will Duensing, CPT president. “Fractionation has been heralded as a way to improve efficiencies in the ethanol industry and increase revenues through more highly valued co-products. We’ve proven that these goals are attainable and can make the ethanol industry more profitable and sustainable.”

Fractioning 49 million bushels of corn annually, the facility at Renew is the world’s largest corn milling operation. The unit, which began operating in January, had performed well above its performance guarantees.

“We met every objective for performance and products,” said Duensing. “We sent to the ethanol plant a DDC (Debranned, Degermed Corn) starch stream well above the 91 percent yield we guarantee with CPT’s fractionation design.

“That means the ethanol producer can now get higher alcohol content and a higher quantity of ethanol. That’s because the removal of the non-fermentables – the germ and bran – allows more starch to be added to the slurry mix.”

Duensing noted that the starch content in whole corn is slightly over 61 percent on an as-is basis (including moisture at 14 percent) and 71 percent in DDC, a jump of about one-sixth in feedstock quantity.

Corn throughput during the performance test was sustained at approximately 13 percent higher than CPT’s guaranteed minimum.

“Renew’s capacity for ethanol production requires 49 million bushels of corn a year,” Duensing said. “Our facility at Renew milled at a rate of 55 million bushels per year.”

The DDC quality was measured throughout the performance test.

CPT technology permits mill adjustments to vary oil content in the DDC stream. During the test, millers were able to achieve a corn oil yield of nearly 73 percent, more than eight basis points higher than CPT's guaranteed yield of 65 percent.

"Low oil and bran content in the starch stream to the ethanol plant," Duensing said, "adds significant value to the stillage co-product. We refer to that as meal because its qualities make it more comparable to the protein content of soybean meal. With significantly less fiber and with the consistency of the ethanol plant's products because of the precise milling, this high-protein meal can be used in the swine, poultry and aquaculture markets."

Higher-fiber DDGS from conventional plants generally has been limited to feed for cattle.

Duensing pointed out that CPT uses a dry-mill technology requiring little or no moisture tempering of the corn feedstock. In addition, the CPT process requires less equipment – and horsepower. From the time corn enters the plant to the time it leaves as starch, germ and bran, less than 300 horsepower per module is required.

Fractionation results in more efficient ethanol plant operation and new and higher-value co-products, Duensing said.

CPT's fractionation plant is built in a modular design, permitting mill sizing to current ethanol plant needs and allowing for expansions. At its recommended performance, each module is capable of milling slightly more than 5.5 million bushels of corn per year (350 days). Michael Regier, CPT's director of technical services, said a module can be stopped and started within five minutes.