

FOCUS

MAGAZINE



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From Feed to Fuel.

(And Back Again.)

Bunge-Ergon Vicksburg, LLC



It is easy to understand why corn is the most widely grown crop in the Americas. After all, it is native to the western hemisphere. In fact, it was unknown in the rest of the world until Christopher Columbus and his fellow Europeans introduced it to their homelands in the years following 1492. Since then, corn has become one of the world's favorite foods. Corn is even a staple feed for livestock, but corn's uncommon versatility doesn't stop there. It's also the basis for making what is fast becoming a staple biofuel: **ethanol**.

While fossil fuels are derived from long decomposed biological material, biofuels are derived from *recently* decomposed biological material. They are the difference between natural resources, and renewable resources and are undeniably the wave of the future.

Which brings us to Bunge-Ergon Vicksburg (BEV).

A \$100 million joint venture between Ergon Ethanol, Inc. and Bunge North America, Inc. – one of the world's leading agribusiness and food companies – Bunge-Ergon Vicksburg, LLC operates Mississippi's first fuel ethanol plant, already one of the

largest such plants in the Southeast. "It was the perfect match," says

Mike Tate, General Manager of the plant, which began construction in February, 2007. "Bunge's experience in agribusiness and Ergon's track record in oil and gas made for an ideal partnership for the production of corn ethanol."

By experience, Tate means that Bunge has nearly 200 years of agribusiness under its belt. Headquartered in St. Louis, Missouri, Bunge North America is the North American operating arm of Bunge Limited, a vertically integrated food and feed ingredient company supplying raw and processed agricultural products to a wide range of customers in the poultry, livestock, food processor, and foodservice industries. The conglomerate operates grain elevators, processing plants, packaging facilities, and corn dry mills throughout the United States, Canada, and Mexico. In fact, the new plant in Vicksburg, Mississippi, was built on the same site as one of Bunge's longtime grain handling facilities on the Mississippi River.

Ergon, the other partner in the venture, brings more than 30 years of experience in the refining

and marketing of motor fuels and highly engineered refined products to the table.

The Bunge-Ergon facility has been in operation since June 1, 2008, and is using what is called a dry mill process. The plant takes basic #2 yellow corn and grinds it into a meal. This meal then gets mashed into a viscous liquid. Exposing the mash to heat and enzymes helps turn the starches in the corn into sugars, and the yeast kicks off the fermentation process. The result? Pure 200 proof, fuel-grade ethanol.

"While ethanol alone isn't the solution to our nation's energy problems, it could greatly decrease our dependence on foreign oil.

Kirk Latson

Blended with gasoline, this ethanol can improve octane and performance and enable fuel to burn cleaner, emitting fewer emissions. Currently, more than half of all gasoline sold in the U.S. is actually a blend. The most common ratio of 90% gasoline to 10% ethanol is fully acceptable for today's automobiles. However, vehicles that accept as much as 85% ethanol

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U.S. Corn at a Glance, 2007 Acres Planted

93.6 million

Acres Harvested

86.5 million

Production

13.1 billion bushels

Average Yield

151.1 bushels per acre

Corn Crop Value

\$52.3 billion

Average Price

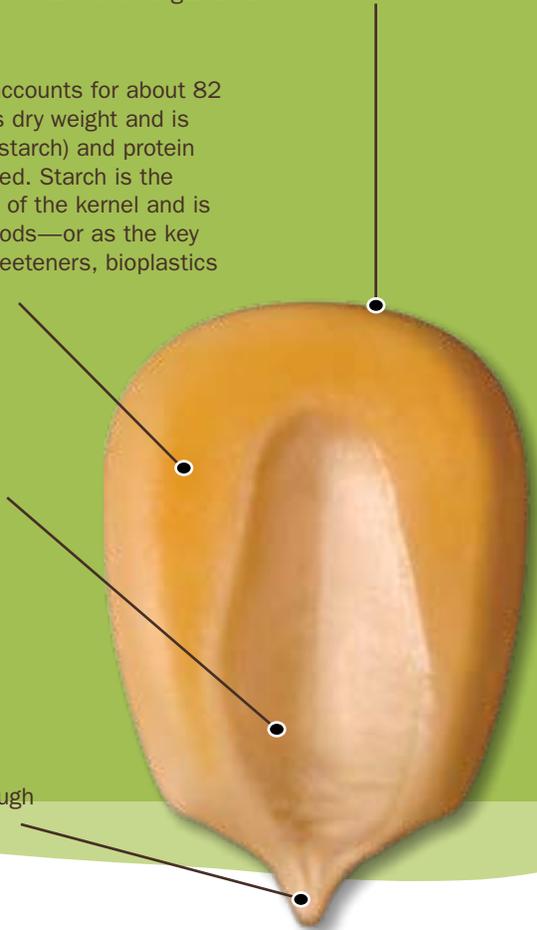
\$4 per bushel

THE PERICARP is the outer covering that protects the kernel and preserves the nutrient value inside. It resists water and watervapor—and is undesirable to insects and microorganisms

THE ENDOSPERM accounts for about 82 percent of the kernel's dry weight and is the source of energy (starch) and protein for the germinating seed. Starch is the most widely used part of the kernel and is used as a starch in foods—or as the key component in fuel, sweeteners, bioplastics and other products.

THE GERM is the only living part of the corn kernel. The germ contains the essential genetic information, enzymes, vitamins and minerals for the kernel to grow into a corn plant. About 25 percent of the germ is corn oil—the most valuable part of the kernel, which is high in polyunsaturated fats and has a mild taste.

THE TIP CAP is the attachment point of the kernel to the cob, through which water and nutrients flow—and is the only area of the kernel not covered by the pericarp.



source: National Corn Growers Association

are on the road in some places (mostly in government fleets) and more are likely on the way.

Staffed by 45 full-time employees, Bunge-Ergon currently produces upwards of 116,000 gallons of biofuel per day. Pretty impressive. But according to Tate, that's only about 75% of the plant's total capacity. "Running 24/7," he says, "we're actually capable of producing 160,000 gallons per day. That's more than 60 million gallons a year." Moreover the 27-acre site was designed with an eye toward expansion, so the plant and its production capacity can grow with demand.

It's a good thing.

Robert Long, Sales Representative for Ergon Ethanol, Inc., sums it up: "Government regulations mandate that at least 6.5% (or 9 billion gallons) of all gasoline must be blended by 2009. Plus, the longer the prices at the pump remain high, the more demand for blends is likely to increase beyond regulatory

mandates. Bunge-Ergon is uniquely positioned to fulfill that demand."

Kirk Latson, Ergon Ethanol Inc.'s Executive Vice-President of Fuels Marketing elaborates: "While ethanol alone isn't the solution to our nation's energy problems, it could greatly decrease our dependence on foreign oil. Our plant is located in an area with significant corn crops and willing farmers, and being right on the Mississippi River allows us to ship large quantities of our product to New Orleans as well as the Midwest very cost effectively – all by barge." The plant shipped an average of five barges every month throughout the summer of 2008. The company utilizes trucks to service Mississippi – the plant's first priority – and other nearby markets, while rail remains a viable option pending future growth.

Bunge-Ergon's ethanol is sold primarily to wholesale distributors and terminal operators who blend it with gasoline for transport to consumer retail stations. But consumers aren't the only ones who stand to benefit from biofuel.

Farmers throughout Mississippi are praising the company for providing them with another market for their crops. Before the plant began operation, #2 yellow corn was sought after only in the livestock feed market. Today, it's fast becoming a leading "cash crop." Opponents argue that biofuels like ethanol drive the price of feed corn up, harming livestock farmers in the process. However, once every drop of ethanol has been extracted from Bunge-Ergon's corn mash, it is then dried into a nutrient-rich distillers grain for – you guessed it – livestock feed. The product is already being utilized by poultry and cattle farmers throughout the state.

That is how ethanol goes from feed to fuel and back again – and how Bunge-Ergon plans to turn kernels of #2 yellow corn into an alternative to crude oil imports.

For more information online, see -

- BEV website: <http://www.bunge-ergon-vicksburg.com/>
- National Corn Growers Association: <http://www.ncga.com/ethanol/>