

Cellulosic ethanol: It's no joke in 2013

Key Points

- Commercial cellulosic ethanol will become a reality in 2013.
- One billion gallons of ethanol could come from cellulosic sources next year.
- Poet's Emmetsburg, Iowa, plant will produce 20 million gallons each year.

By JOSH FLINT

ACCORDING to a University of Illinois crops professor, cellulosic ethanol has been three to four years away for the past 10 years.

The joke has its merit. Plenty has been promised with cellulosic ethanol, but to date, nothing has been delivered on a commercial level. Many in the industry say the jokes will cease next year.

Tom Buis, CEO of Growth Energy, says six commercial cellulosic-ethanol facilities will come on line in 2013. Two Iowa facilities — Poet's Emmetsburg location and DuPont's Nevada location — will use corn stover as the feedstock. BP's Florida plant will run on energy cane. A small Virginia facility will use landfill waste.

Many people see cellulosic ethanol as a more environmentally friendly option than traditional corn-based ethanol. In fact, the Renewable Fuels Standard defines it as such. First-generation biofuels (corn-based ethanol) are defined as reducing life-cycle greenhouse gas emissions by 20%. U.S. EPA requires advanced biofuels to reduce GHGs by 50%, and cellulosic biofuels to reduce GHGs by 60%. However,



TOM BUIS



JEFF LAUTT

Buis notes, many corn ethanol plants that have made advancements in technology are close to meeting the advanced biofuels requirements.

Poet's game plan

Reducing GHGs by 60% is a tall order. Making cellulosic ethanol at a profit makes things even tougher. Both of those hurdles, combined with the global recession, have made it nearly impossible. Buis says the recession dried up many

of the risk-taking sources of capital required for such an industry.

Still, companies like Poet say cellulosic ethanol can be produced at a profit. Five years ago, Poet was producing cellulosic ethanol for more than \$5 per gallon, says CEO Jeff Lautt. Today, its cost of production is about \$3 per gallon. As with corn-based ethanol, Lautt expects that as the industry matures, the cost of production will fall as efficiency increases.

At its Emmetsburg location, Poet has paired a 20 million-gallon-per-year cellulosic ethanol facility with a 50 million-gallon traditional corn-based ethanol plant. Lautt says the cellulosic plant will be capable of flexing up to 25 million gallons per year.

Once it's up and running, the Emmetsburg location will be a processor for the entire corn plant. Along with traditional ethanol and dried dis-

tillers grains, the cellulosic side will process the biomass. Once ethanol is extracted from the cellulose, the remaining lignin will be burned to power the facility.

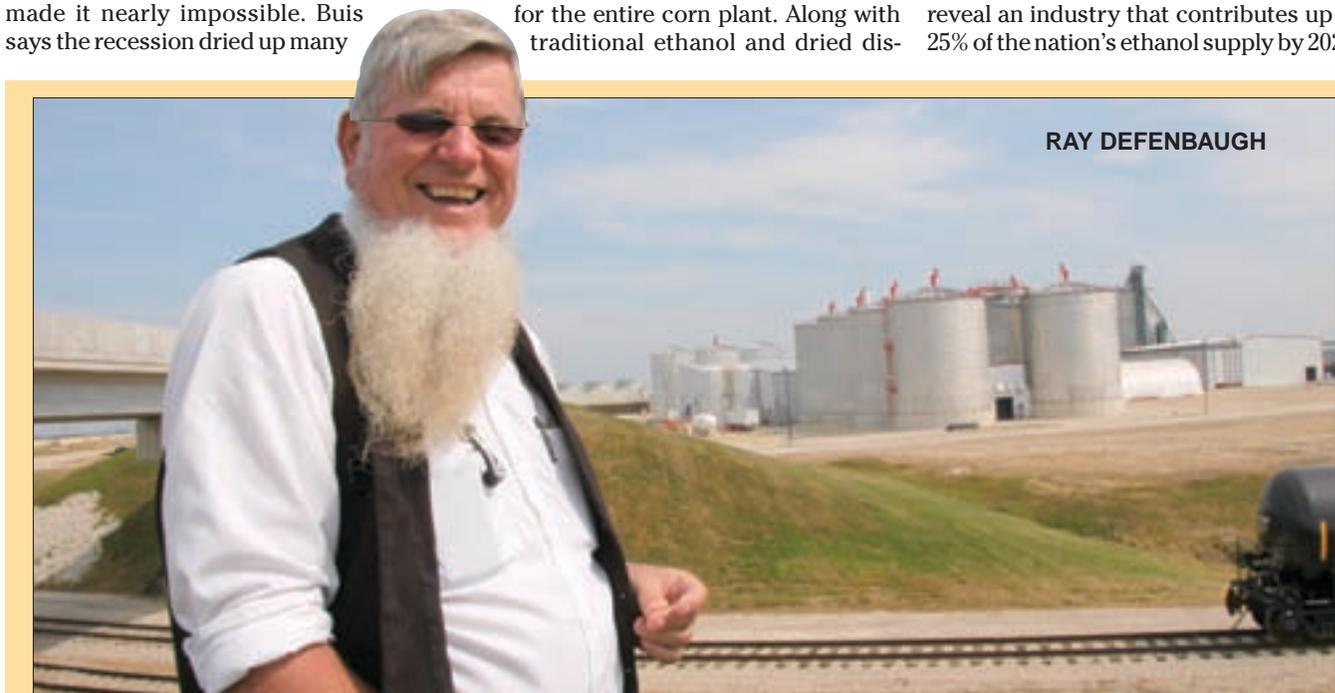
Cellulosic future

This year, the RFS mandate called for 8.65 million gallons of ethanol to come from cellulosic material. A recent Congressional Research Service study projects 1 billion gallons of cellulosic ethanol will be produced in 2013.

Even though cellulosic ethanol is squarely behind the eight ball, Buis and Lautt agree the potential is high for the fledgling fuel source. Lautt says some 6 billion to 7 billion gallons of ethanol could be produced using excess corn stover alone.

Buis is excited that all 50 states, rather than just the corn-producing ones, can contribute feedstock for cellulosic ethanol. He estimates some 80 billion to 100 billion gallons of cellulosic ethanol could be produced using biomass from the entire U.S.

If Lautt had a crystal ball, he anticipates a gaze toward cellulosic ethanol would reveal an industry that contributes up to 25% of the nation's ethanol supply by 2022.



RAY DEFENBAUGH

Farmer asks why \$8 corn is so outrageous

IN the 1970s, Ray Defenbaugh worked as a banker. Now a farmer and CEO of Big River Resources, he can still recall the value of assets in those days with pinpoint precision.

The best farmland went for \$700 an acre. The most common horsepower tractors were selling for about \$11,000. Anhydrous ammonia maxed out around \$55 per ton. Corn fluctuated from 95 cents to \$1.05 per bushel.

Fast-forward to 2012. The drought has pushed nearby futures prices to near \$8 a bushel. Defenbaugh notes this is about an eightfold increase. Ethanol detractors say this is way out of line. Is it? Defenbaugh asks.

Is it unreasonable for the best parcels of land to sell for \$5,600 an acre? Are today's utility tractors going for \$88,000? Is \$440 the max anyone

has ever paid for a ton of anhydrous ammonia?

Across the board, farmers have dealt with well over an eight-times increase on most everything it takes to keep the business running. So is \$8 corn really that unreasonable? Defenbaugh asks.

As the drought fuels the debate surrounding the ethanol mandate, he says there's one big driver behind the whole "cheap corn" mantra: corporate greed. Defenbaugh says corporate meat processors are to blame for perpetuating the myths surrounding ethanol and food-price increases.

"The corporate thug is very vocal," he says. "He wants to steal our corn, not buy it. By stealing it, I mean buy it at below the cost of production."

Taking this a step further, Defenbaugh says corporate meat processors are back to using the scare tactic of saying ethanol will cause high food prices.

Unlikely ethanol support

Additionally, many of the media hold the assumption that all livestock producers are against ethanol. Defenbaugh says

this is another fallacy. Again, he points a finger at large meat processors that "have a business plan built around cheap corn."

The typical grain and livestock farmer is supportive of ethanol, maintains Defenbaugh, who falls into that category as a cow-calf producer. Not only do the high grain prices help the bottom line, but using ethanol coproducts such as dried distillers grains are critical to many livestock producers' profit strategy, he says.

Bryce Knorr, senior editor for *Farm Futures*, agrees that Defenbaugh is on to something. *Farm Futures* recently surveyed 1,800 farmers on a variety of topics. Several of the questions dealt specifically with livestock herds and ethanol support.

"According to our survey, those who raise livestock are somewhat more likely to support the suspension of the Renewable Fuels Standard mandate," Knorr says. "But most of this group, who also raise crops, like farmers in general, are opposed to ending the requirement."

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