



Jolley: A Talk With Craig Pilgrim About The Future Of The Ethanol Business

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It doesn't matter what part of the ag business you're in, ethanol has had an impact on your wallet. If you're growing corn, you've enjoyed the ride. Skyrocketing production has had a very nice effect on the price of a bushel, thank you.

If you're using corn in your feed ration, you probably haven't enjoyed the ride quite so much. As with any rapidly developing business opportunity, ethanol production in the U.S. is still trying to find its equilibrium, that sweet spot where production closely matches demand; where the input of raw materials doesn't disrupt commodity markets.

One of the closest observers of the ethanol business is Craig Pilgrim, Global Marketing and Product Development Manager for Lallemand Ethanol Technology. He's got some serious credentials, too. As a young man fresh out of Mount Mercy College almost 20 years ago he started his education in alcohol production in the QA/QC labs of ADM.

After a few years, Pilgrim's career took a short detour when he moved into the world of enzymes with Gist Brocades. He started in the applications lab in the industrial enzyme division, then took a sales position within the fruit juice and wine division.

However, his real passion for ethanol made him decide to get back into the market with Genencor International, an enzyme producer. He provided in-plant technical support to ethanol producers; then transitioned into a role as Applications Manager where he specialized in enzyme technical applications for the use of novel enzyme technologies in the ethanol industry.

Today, Pilgrim is with Lallemand Ethanol Technology and he's responsible for marketing and development of the companies' yeast, yeast nutrients and antimicrobial products. Two important parts of the Lallemand Specialty Business Group are LET – Lallemand Ethanol Technology - and LANNA, Lallemand Animal Nutrition.

LET is Pilgrim's area and he described it this way: "LET concentrates on fermentation ingredients such as Thermosacc® yeast and AYF™ yeast food line for the optimization of the production of alcohol for the fuel and beverage distilling industries while the Animal Nutrition business markets yeast and bacteria for animal health applications including a direct fed microbial, MicroCell Gold, – a combination of two unique bacteria designed for cattle feed diets containing distillers grains solubles."

It's the issue of ethanol production and its positive effects on American agriculture that brings Pilgrim's two decade perspective into sharp focus. The ethanol industry has gone through a rapid growth phase. In the short term there has been the typical correction. "We are optimistic about the future of renewable fuels, including ethanol in the medium term," he said, "I think that in the future the growth will be more

smartly managed from a financial point of view and the growth that will be achieved will be more sustainable in the long run.”

Talking about the pricing disruptions, he said, “I think that we had a perfect storm situation where corn and oil prices were very high just when many new plants were being commissioned. The 2008 financial crisis and credit squeeze exacerbated this. Unfortunately a number of plants got caught up in very bad financial situations and were forced to close.”

With so many plants competing for market share, Pilgrim thinks plants will differentiate themselves on how efficiently they can make the most amount of ethanol. They’ll also work on increasing efficiencies in the design and production processes such as saving energy, using less water usage and achieving zero discharge.

He noted that “Production efficiencies have changed quite a bit over the years through innovations in ingredients, equipment and process design such that the yield of ethanol produced has gone up from roughly 2.6 to pushing 2.9 gallons/bushel of corn.”

“By products will generally be Distillers Dried Grains,” he said, “and the biggest differentiation will be on the quality of the product. This can be achieved thorough process innovations such as cold cook or fractionation, how efficient the fermentation has gone - meaning no large amounts of passed sugar.”

“Also, other differences could include the amount of important components such as more protein, the right kind of protein, less starch, or more digestible fiber. Again process variation will change these component ratios.”

It’s the issue of DDG consistency that is important to most buyers. Pilgrim has good news, there, too. “One of the things that we have learned from our colleagues at LANNA is that most nutritionists and farmers want to be the product to be consistent in its quality and content. The plants who are minimizing the hills and valleys of production are the ones that get a higher premium than those that have difficulties controlling their operations.”

Talking directly to a key concern about DDG’s by most animal nutritionists, Pilgrim said this about sulfur content: “We at LET have learned through LANNA that higher levels are not good for cattle feed and that by decreasing this, plants can help alleviate the problem. This type of interaction and understanding allows to go back to our customers and help to educate them and help them become more consistent and to produce a higher quality feed.”

The production expansion of ethanol is a worldwide phenomenon, though and the fact that it’s an international business makes a balance in production even more complicated.

Pilgrim looked at the worldwide production of ethanol as shown on the RFA website at <http://www.ethanolrfa.org/industry/statistics/#E>, and pointed out that the US, Brazil, the EU and China are the top producing countries of ethanol. The US and Brazil are the two biggest producers with the US being the largest.

Brazil’s ethanol mainly is produced by utilizing sugarcane, their largest crop. The

simpler production process extracts the juice and then ferments it into ethanol. "Their production costs will be roughly 30% less than a typical US based plant due to additional processing in starch based ethanol facilities," he said.

Most of Brazil's bioethanol is used internally. However, Brazil is also the world largest exporter of ethanol mainly to the U.S. despite current duties and tariffs, the E.U. and the Caribbean Basin.

Looking forward, I asked Pilgrim what he thought about the future of the U.S. ethanol industry. "Based on all of the factors currently in place such as feedstock costs, production efficiencies, and legislation, US ethanol production compares very well in terms of cost and revenue to the rest of the world," he said. "I do believe that looking at alternative processing techniques and potentially different feedstocks will continue to drive the production costs down over time."