

EMPYREAL[®]

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Getting through a difficult **DROUGHT YEAR**

Plus
A look at the
Dayton, Ohio, expansion

GETTING THROUGH A DIFFICULT DROUGHT YEAR

Knowing your supplier is more important than ever.

The current US drought and its affect on the corn crop has caused a ripple effect of volatility in several industries. Customers purchasing feed ingredients have no doubt seen an impact with rising costs, short supplies and heightened safety concerns. During these times, it's imperative to have a strong relationship with your supplier. That's where Empyreal customers have a distinct advantage: They can rest assured the product they purchase is exceeding (and has always exceeded) safety standards. The Empyreal team is also there to assist with solutions to issues or concerns customers may have.

Given that Empyreal 75 is derived from corn and that the drought has diminished corn supply and quality, the Empyreal team continues to work diligently to find creative solutions to these issues and keep safety a top priority.

"This is the corn crop we've been dealt, and we just have to work with it," said Dr. Rick Stock, feed product line manager, Cargill.

MINIMIZING RISK OF AFLATOXIN

During drought, corn becomes increasingly susceptible to mycotoxins and most dangerously to aflatoxin – a mycotoxin that is particularly serious when dealing with dairy, aquafeed and petfood.

The Empyreal team continues to work diligently to find creative solutions and keep safety a top priority.

GETTING THROUGH A DIFFICULT DROUGHT YEAR

Continued

“When crops are stressed by lack of water, they are more susceptible to these toxins,” said Stock. With 30 years in the animal agriculture industry, Stock said he hasn’t seen drought like this since 1988. “The drought this year is more widespread, affecting more of the corn growing area in the US than in other years. Last year was intense, but very localized [to the Southwest] and not in the major Cornbelt.”



When a crop from a less-than-ideal growing season has been harvested, sampling for deviations in quality becomes even more important. The idea is to minimize the amount of infected corn coming into the plant, and, at Cargill, this is done by sampling and testing each truck load of corn that arrives. “There’s nothing in dry or wet milling processing that removes the mycotoxins, so the best approach is to keep it out of the plant,” Stock said.

Cargill mycotoxin limits are already more stringent than the required 20 ppb limit; it limits levels to 10 ppb for incoming corn. Each incoming corn load is tested, and with 300-500 truck loads coming in a day at some plants, that requires the company to be on top of its game to avoid a truck backup.

“Part of this is working with the suppliers [corn farmers and elevators]. They understand we’re a food processing plant and

we need good, quality corn. They know we have stringent quality levels on our corn. If it’s rejected for high aflatoxin, they have to sell their corn elsewhere.”

SAFETY FIRST

The company recognizes that when it comes to food safety, there’s an increased awareness and concern, with people wanting to know that what’s in their food and their pet’s food is safe. HACCP and the Food Safety Modernization Act have also, over the years, shaped Cargill’s testing methods and procedures. “That’s something today [food and feed safety] that we do not take for granted,” said Stock.

Knowing you, as the customer, are in the hands of a supplier that has always and continues to make safety a top priority and that will assist you with solutions, is particularly important in times of weather-impacted crops.

“Know your supplier,” said Stock, “and know what you’re buying. In years like this it’s important to know who the quality suppliers are and who are not.”

The impact of the drought on crops will likely have a significant impact through next year, as well, and Empyreal customers can be assured that the Empyreal team is always there to help in finding solutions to their concerns and will continue to provide a product that is safe and effective.

WHY ALL THE EXCITEMENT ABOUT PULSE CROPS?

Pulse crops have many benefits, including being nutritious and having a very low risk for mycotoxins.

BY MICHAEL KLAPPERICH, INGREDIENT SALES

Pulse crops include everything from field peas and lentils to various dry edible beans, with the predominant pulse crop being the yellow pea in North America. Historically, the yellow pea has been shipped overseas in a whole or split form to be used for human food, but recently there has been a trend to incorporate pulse crops or their protein fraction into petfood. Our team will begin selling US production pea protein within the first quarter of 2013 to meet the growing demand.

BENEFITS OF PULSE CROPS

So why all the hype from the petfood industry for pulse crops, especially the protein fraction? First of all, not only are pulse crops nutritious and have a good amino acid profile, but they are also GMO-free, non-allergen and have a very low risk for mycotoxins. Second, they are a grain-free vegetable protein. With the grain-free petfood diets that continue to grow in popularity, petfood manufacturers are limited on what protein sources they can buy since they can't use more readily available proteins from grains or soybean meal. Meat proteins are also too costly to make up all the protein needs for the grain-free diets so this is where the pulse protein fraction makes a great fit. Last but not least, pulse crops are an environmentally friendly and sustainable crop. They require a minimal amount of water and fix nitrogen in the soil for the following year's rotating crop to reduce the overall carbon footprint compared to other row crops.



The Empyreal team will begin selling US production pea protein within the first quarter of 2013.

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With all these benefits combined it's easy to see why pulse crops and their protein fraction are a good fit nutritionally, economically and environmentally to meet the current consumer demand in the petfood market. The main concern going forward for petfood manufacturers is whether the current supply of pulse protein can keep up with the limited ingredient diet petfood demand, and our team is looking forward to providing the solution.

THIS, THAT AND THE OTHER THING

The 2012 drought has meant record-high grain and ingredient prices.

BY ERIC BELL, COMMERCIAL MANAGER – FEED INGREDIENTS

It's hard for me to even know where to start. Let's start with: Wow, what a year so far. I don't know about where you live, but we just finished a three-month stretch with almost no rain at all. Sure there were a couple of spots around us that got a sprinkle from time to time, but, not surprising, it was drier than most of us can remember as it was the worst drought in more than half a century. What did this mean other than my kids got a serious break from mowing the lawn? To start: Record-high grain and ingredient prices.

I know this is causing all of us a lot of stress, and we are still waiting to understand the full impact of the drought. As we have scrambled to find better formulation strategies we've seen animal protein prices on the rise as well as people looking for alternatives ingredients. I don't want to steal Lee's thunder so I'll leave the debate on what the implications to the broader market are to the experts.

2012 ELECTIONS

Now on to the US fall elections. The good news is we are getting into the home stretch, so only a few more days of political ads. The bad news is a few more days of political ads. There is posturing

and evasion taking place on every possible topic: the economy, jobs, foreign policy, religion, healthcare, etc. My son and I went to the movie "The Campaign," and they really did get one thing right: Politics is about winning, and everything else is secondary.

That said, American Feed Industry Association sent members a petition urging us to contact our representatives to repeal the ethanol biofuel mandates this year in an effort to reduce demand and price for corn, making feed costs more affordable. Being that this is an election year, I find it unlikely that we will be able to get any agreement to move this forward in time to make a difference. The other consideration is that the US Secretary of Agriculture Tom Vilsack issued a report that said he does not support dropping the mandates this year, and it would only result in a 5 percent decrease in corn price. The question is: Did they know 5 percent of corn would be \$0.40 a bushel? On the other side, we will also see record-high soybean meal. With the poor crops in South America, and now North America, the loss in DDGS from ethanol production might have a negative impact on protein prices, at least until the South American crop is made.



With the 2012 elections fast approaching, there is posturing and evasion taking place on every possible topic.

MARKET COMMENTARY

The market needs new bullish news to push through the upside.

By Lee Bohling, Sales Manager – Protein Ingredients



The drought of 2012 will go down in the record books as one to remember like 1988 and the 1930s.

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Key takeaways from the USDA Supply/Demand report in October were:

- The USDA Supply/Demand report in October showed U.S. corn production at 10.7 billion bushels for 2012/13
- The U.S. corn yield was reduced .8 bushels per acre to 122.0 bushels as the entire Corn Belt discovered what Mother Nature can do when we don't have moisture. As forecast, the 2012/13 corn yield would be the lowest since 1995/96. Corn area harvested for grain was left unchanged at 87.4 million acres, after dropping down 1.5 million acres in the August report.
- Total U.S. corn supplies for 2012/13 are projected at a nine-year low.
- The 2012/13 season average farm price for corn is projected at a record \$7.10 to \$8.50 per bushel, up sharply from the \$5.40 to \$6.40 per bushel projected in July. Soybean production for 2012/13 is projected at 2.634 billion bushels, down 58 million due to yields lowered 0.8 bushels/acre to 35.3 bushels/acre. Harvested area was left unchanged at 74.6 million acres.
- Soybean production for 2012/13 is projected at 2.86 billion bushels, up 226 million due to late rains that moved up the Mississippi valley. Harvested area is projected at 75.7 million acres, up 1.1 million from the September projection.

MARKET COMMENTARY

Continued

- The soybean yield forecast of 37.8 bushels per acre is up 2.5 bushels from last month's projection and 4.1 bushels below last year's yield.

So, what does all this mean? The drought of 2012 will go down in the record books as one to remember like 1988 and the 1930s. Keep in mind that the market seems comfortable trading the current ranges on corn \$7.40-\$8, beans \$15-\$16.50 and soybean meal \$430-\$500. This market will need new bullish news in my opinion to push through the upside. This could come from corn yields dropping below 120 bushels/acre and bean yields in the 34-35 bushel/acre range on the next report. The market is talking about the potential that if either of these happen, corn could go to the \$9-\$10 range, beans \$18-\$20 and soybean meal \$500-\$600 as major price rationing would have to occur to scale back demand. Based off the yield reports I have been hearing, the reduced yields do not seem probable at this time.

We have been seeing quicker demand destruction at current levels than I thought possible so that could help curb some of the upside enthusiasm. We are looking for 10 percent livestock herd liquidation in poultry, swine and beef. Export demand will



MARKET COMMENTARY

Continued

disappear quickly above current levels. Look for export and feed demand to be cut the most on any further price moves higher. There has also been a lot of talk about suspending the ethanol mandate for one year, but it would appear nobody in Congress wants to touch this in an election year. There is still a lot of debate about how much impact this has on prices with the recent range being \$.28/bushel and not the \$2/bushel that some are trying to claim.

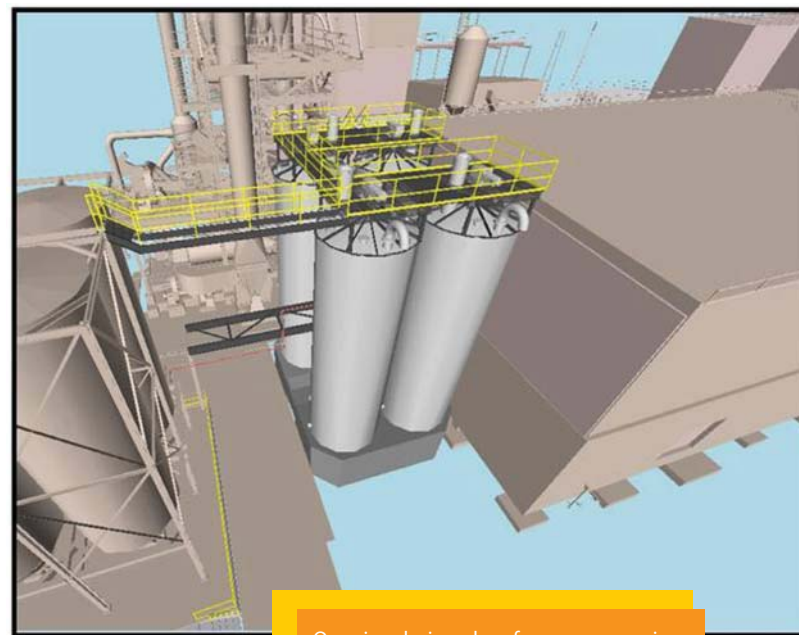
One bright spot if you want to feel a little better is in June the market was talking \$4 corn, and if we could see trend line yields and 97.5 million acres planted to corn next year like they are saying, the market would want to go back to those levels again. Not much consolation, I know, for those of us going through this current market pain, but the cure for high prices is high prices.

Please let me know if you have any questions as I am always willing to discuss the market and how it can impact you. I am confident that by working together we can find a solution to fit your needs.

DAYTON, OHIO, EMPYREAL 75 EXPANSIONS

The project is well on its way. **BY MATTHEW TETRICK, DAYTON EMPYREAL PROJECT MANAGER**

In August 2011 we announced the expansion of Empyreal 75 production at our Dayton, Ohio, facility. The Dayton project team is well on its way and expecting to have new volume online in spring 2013. They are currently working through detailed engineering and planning to start construction. The operations team has also been identified and is integrating within the project. As the group makes plans for training and startup they will be working closely with our existing plant in Blair, Neb., to ensure consistency in production.



Ongoing design plans for new processing equipment in Dayton, Ohio.

NEW INGREDIENTS

Finding solutions for ways to use quality, unique ingredients. **BY BETTY MCPHEE, DIRECTOR OF SALES**

How many times have you been shown a new ingredient and thought, “Hmmm ... how can I use this, and what ingredient do I have to eliminate to bring in this new ingredient?”

Many companies we work with share the same frustrations, and in the world of an ingredient supplier, this has been, and will continue to be, one of the most challenging issues to overcome. With the high cost of ingredients and the uniqueness of formulations today, how can a company maximize space and utilize one ingredient? If you could use one ingredient for multiple diets, species and markets, that would be ideal; regardless of whether it’s a macro or micro ingredient, which is why many companies, for example, are making different foods such as pet and fish food. Both diets are extruded, using very similar protein sources, vitamins and minerals. With any supplier, the goal is to help the customer find solutions to challenges like this, while bringing quality and unique ingredients to the manufacturer.



Have you ever thought, “How can I use this new ingredient?”

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THE EMPYREAL TEAM



Lee Bohling
SALES MANAGER – PROTEIN INGREDIENTS

Bohling graduated from the University of Nebraska, Lincoln with an ag econ degree, and he has been in the agricultural business for 26 years primarily around the grain side. For the last 12 years Bohling has been with Cargill in Blair, Neb., where he manages sales around CGM and Empyreal75® and other protein ingredients for the seven wet mills within Cargill Corn Milling North America.



Matthew Tetrick
DAYTON EMPYREAL PROJECT MANAGER

Tetrick graduated from Purdue University with a bachelor's degree in chemical engineering. He spent the first six years of his career working on expansion projects at the Cargill facility in Blair, Neb. Tetrick relocated to Dayton, Ohio, in 2011, at which time he became the project manager for the Empyreal expansion.



Michael Klapperich **INGREDIENT SALES**

A graduate of Iowa State University in 2002, with a Bachelor of Science in agricultural business and international agriculture, Klapperich has worked with the Feed Products group in the Cargill Corn Milling division over the past 10 years, holding various roles in merchandising and sales of feed ingredients.



Betty McPhee **DIRECTOR OF SALES**

Bringing with her nearly 20 years of pet food industry experience, McPhee supports the Empyreal and Lysto brands in the pet and aqua industries on a global basis. She has worked with both the manufacturing and ingredient supplier side of the pet food business and has been actively involved with AFIA, PFI and AAFCO. McPhee studied at Denver University.



Eric Bell
COMMERCIAL MANAGER – FEED INGREDIENTS

Bell is a graduate of South Dakota School of Mines and Technology with a Bachelor of Science and University of Nebraska at Omaha with a Masters in Business Administration. He has been employed by Cargill Corn Milling for the past eighteen years with the first twelve focused on operations management, engineering and construction management. For the past six years he has been involved with product development, business development and his current position as a commercial manager for Cargill Corn Milling feed ingredients. His work experience prior to Cargill was in power production, mining and the U.S. Navy.

QUESTIONS? COMMENTS?

Contact us with your feedback about this issue of Empyreal. Email Betty McPhee at betty_mcphee@cargill.com

THE EMPYREAL TEAM



Desiree Burns
INTERNATIONAL LOGISTICS COORDINATOR

Desiree Burns handles the international logistics and freight forwarding for the Empyrean 75 product line. Her focus is the execution of export sales contracts for containers, barges and vessels. She works with the transloader and steamship lines to provide the logistics for the product. Burns has worked for Cargill for more than 15 years, all with the Feed team. In the last six years she's been primarily focused on exports.



Ann Clark **CUSTOMER SERVICE MANAGER**

Clark graduated from Buena Vista College with a degree in accounting. She started with Cargill in 1994 as an accounting specialist in Blair, Neb., working with product coordination. Clark enjoys working with customers, plants and carriers and now oversees multiple products, striving to provide great service for customers.

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