EMPYREAL® 75 UPDATE

Cargill, Inc. | 1705 Kellie Drive, Blair, NE 68008 | 866.369.5498
empyreal75.com | william_achor@cargill.com

August 2010 Edition

National Brand Launch

Bill Achor, Sales and Account Manager

We are excited to announce that Empyreal® 75 has made its first national brand launch in a re-formulated pet food diet. We continue to send samples abroad as pet food manufacturers, co-packers, and proto-type feed designers look for brand differentiation with Empyreal® 75 as a unique premium protein ingredient. The pet food industry continues to grow even amidst the slowly recovering economy. If there were ever signs of life, it is in the industry serving the companion animal business. Even as we travel abroad in developing countries, we discover feed mills with deep established roots in commercial agriculture feed manufacturing exploring pet food formulation either through their own brand or through co-packing arrangements. Our biggest challenge in seeing widespread adoption of Empyreal® 75 inclusion into formulations are labeling requirements that go beyond human food labeling requirements. It's no wonder as we talk to purchasers who just made commitments on new supplies of packaging to feel reluctance to a label ingredient change. So we keep reaching out to the pet food industry looking for opportunities for new launches, new products, and newly designed packaging.

If your travels take you to Las Vegas, Nevada this fall, come by and see us at booth 2712 in Nature's Pathway at Super Zoo, the National Show for Pet Retailers being held at the Mandalay Bay Convention Center September 14-16, 2010. We are looking forward to gathering information from an informed crowd on the challenges and opportunities of feeding grain-based ingredients in premium and super premium pet foods. Recent pet food recalls have reached sensitive manufacturers, buyers and consumers causing concern ripples throughout the industry over ingredient sourcing, quality concerns, manufacturing practices and general scrutiny over what our four footed friends are calling a belly-busting good meal. We have launched our new social networking site pre-show so take a look. We are looking forward to tweeting, blogging, or facebooking with customers or whatever everybody else does out there. Write on our wall or check us out as we look forward to making lots more friends at the show.

We have launched our new social networking site on Facebook. Visit us at Facebook.com/dogscatsandcorn.

Regulatory Update

Eric Bell, Product Line Manager

This year's summer AAFCO meeting brought a couple of new developments that will directly impact the pet food industry in the United States. The most controversial of these developments was the new rule passed by the pet food committee which requires calorie statements on all pet foods, treats, and supplements greater than 500 kcal/kg. These may be derived using the modified Atwater equation ME = 10* ((3.5* crude protein) + (8.5* crude fat) + (3.5* NFE)). It does appear that there are still several unresolved questions around this ruling such as when it must be implemented, what if any variance is allowable, and where and how this information should be placed on the label.

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Carload. After carload.

Each shipment of Empyreal 75 is exactly like another. Same nutrient composition. Same texture. Same everything. Dependably pure, every time.

EMPYREAL® 75 dependably pure.

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The pet food committee also has a working group that has constructed a website aimed at helping start-up and small pet food companies. While the tool is not available to the public just yet, the preview revealed that it will be a great resource to the business and a very helpful resource for the state regulator. They expect the website to go live yet this year.

The other big news out of the AAFCO meeting was the FDA/CVM statement that they will no longer issue informal letters of no objections for new ingredients. Their intent is to try to work through the remaining applications but no guarantees. Going forward the only two paths to new ingredient approval processes will be through "GRAS self-affirmation" or a formal "food ingredient petition." General consensus was that this change would make the process for ingredient approval more complicated.

On a final note, at this year's winter meeting in St. Pete's Beach, Florida they will be holding a Pet Food Labeling workshop on January 17, 2011. Participation will be limited to the first 200 participants and registration begins on August 15, 2010. More information can be found at www.aafco.org or by contacting Sharon Krebs at sharon@aafco.org.

Market Update

Lee Bohling, Sales & Risk Manager Protein Ingredients

Compared to other grains and proteins that have seen a lot of movement, Empyreal® 75 has seen very little price movement over the last month. From the beginning we have tried to take some of the volatility out of the market to help our customers in managing their risk. This can be easier said than done, but we realize with all of the different ingredients you have to manage and purchase, it would be nice to know that you can count on Empyreal® 75 to help get you through the volatile times. We will continue to work hard to help you manage your price risk and show that Empyreal® 75 is a good fit into your formulation mix. We continue to show a carry from September into the deferred months and expect these prices to remain at these levels with no supply issues. Contrary to Empyreal® 75 we do look for the CGM supply to tighten going into the October - March time slot as the seasonal grind patterns come into play. CGM ratios are still around 185% for 2011 while the market continues to struggle to assess projected supply issues over the winter months. The last two years have been rough for everyone in the commodity arena as we have dealt with ratios that are way above historical levels. We have seen some demand shifts at these levels on the domestic side, but the cheaper U.S. dollar has kept the export interest at levels to absorb this. We still feel the market will remain very flat price oriented and will only track to the futures market about 30 - 40% of the time. This will force the market to trade more on a month by month basis as it gets harder to offset risk in the SBM market.

The volatility in the grain markets due to the dry conditions in the Black Sea caught a lot of people by surprise. The poor wheat crop is expected to increase demand for feed grains. China's annual corn growth usage has ranged from 2-6% increase/yr over the last decade and is expected to remain on this growth curve. This will keep the market sensitive to any type of production issue problems and will keep the acreage battle on for corn and beans.

The wheat rally has taken corn and beans with it in quick fashion. On June 30th Chicago December wheat was at $5.065 and traded as high as $8.68 on August 6th and closed at $7.43 on August 9th. The market was talking about taking December corn futures down to the $3.20 - $3.00 range on June 29th when the market was at $3.44 and now has rallied $.74 to $4.18 as of August 9th. November beans have rallied from $9.12 to $10.35 over the same time period. Talk of world Corn Stocks/Use Ratio tightening has some wanting to maintain a premium even in the face of a large U.S. crop coming on. The U.S. corn carryout is projected at 1.373 bil bu and beans at 360 mil bu on the last USDA report. Both of these numbers would indicate ample stocks and for prices to fall back by harvest. New support levels on December corn into harvest are $3.75 - $3.90 and $9.75 on November beans.

EMPYREAL® 75 dependably pure.

Corn: Change in composition and yield

Dr. Eugene Fox, Principal Research Scientist at Cargill

Corn is the largest agricultural crop grown in the United States. Corn kernels and the ingredients made from them find their way in to many of our food and feed systems.

As with all living organisms, corn is "controlled" by the genetics and the environment in which it is grown. The data in Table 1 presents the relative factors that impact yields of corn. Weather and fertilizer are main factors for yields. The hybrid companies are always looking to maximize the return to their customers, the farmers. Improving the genetics will improve yields, dry down of the grain in the fall, drought and pest resistance.

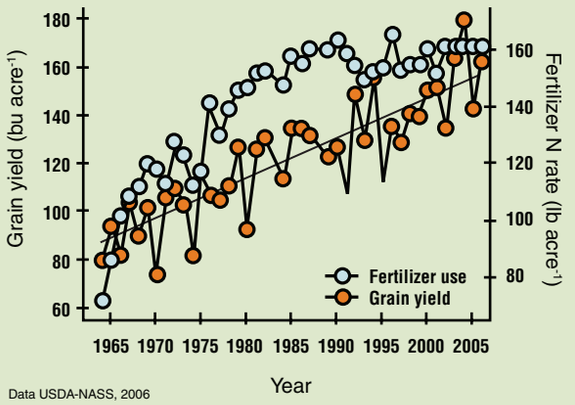
Figure 1. Seven Wonders of the Corn Yield World
(Below and Haegele)

Rank	Factor	Value	
		bu/acre	%
1	Weather	70+	27
2	Nitrogen	70	26
3	Hybrid	50	19
4	Previous Crop	25	10
5	Plant Population	20	8
6	Tillage	15	6
7	Growth Regulators	10	4
	Total	**260bu**	**100%**

Given key prerequisites
Source: University of Illinois, Department of Crop Sciences

There has been a substantial increase in yields from 1965 to 2005 (Figure 2). Yields have increased by over 50%. About 15 years ago, the amount of nitrogen applied has flat lined around 160 lb/acre. With the increase in yield, the nitrogen pound/bu had dropped from 1.2 lbs N/bu for optimal yield to 0.85 lb/bu.

Figure 2. Grain yield and nitrogen use in Illinois
(1964-2006) (Below and Haegele)



Data USDA-NASS, 2006
Source: University of Illinois, Department of Crop Sciences

Reducing the requirement for nitrogen fertilizer, with increasing yields, reduces the cost for the farmers. Unfortunately the reduced need of nitrogen is changing the composition of the corn kernel. This results in lower protein composition in corn over time.

Figure 3. Average protein in corn delivered to Cargill corn Wet mills.

Source: University of Illinois, Department of Crop Sciences

Weather also impacts kernel composition. The 2008 growing season in the central Corn Belt saw huge rain events and major flooding. This washed a lot of the nitrogen out of the root zone and reduced the protein level of the corn (Figure 3). In a severe case, if there is very little nitrogen available, the kernels will die on the ear (Figure 4).

Figure 4. Nitrogen impact on seed development.

Sufficient N N Stress

The 2009 growing season had cool temperatures in July-September with excessive rain in some areas. The corn plants had little stress so yields were higher. The low stress allowed the grain to store more starch and less protein. The reduced protein is seen in our reduced gluten meal yields. Unless focus and direction on genetics and yields changes we should expect to see starch yield increase and protein yield decrease on average in corn.

Below, Fred and Haegele, Jason, 2010. Genetic and Agronomic Contributions to more Efficient Corn Production. Corn Utilization and Technology Conference

Moose, Steve. 2010. Genetic Improvement of N Utilization in Corn, Past Progress and Future Prospects. Corn Utilization and Technology Conference

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