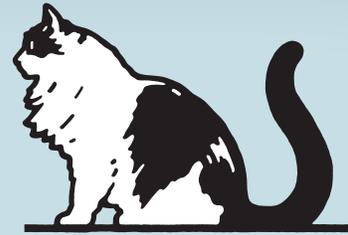


EMPYREAL® 75 UPDATE



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Cargill expands Empyreal®75 production in Dayton, Ohio

Eric Bell, Product Line Manager

Cargill is expanding production of Empyreal 75, a proprietary “corn protein concentrate,” at its Dayton, Ohio, facility. The investment in Dayton will provide a second production facility and is well situated to serve our growing customer base. This expansion will help meet our growing demand in both the aquaculture and pet food markets. This expansion will increase production capacity by more than 50,000 tons, for a total of 110,000 annually. The Dayton facility is expected to be producing Empyreal 75 before the end of this year.

Introducing Lysto™, the power of protein

Lysto, the newest member of the Empyreal® family, is an extremely digestible protein concentrate bringing the same

functional benefits of Empyreal 75 with the added benefit of lysine in a single ingredient. Lysto is a dependable, safe, ingredient source, produced under strict quality control measures.



Lysto is the result of bringing together two streams from our process – the protein concentrate and a lysine fermentation product – and processing them together to provide an all-natural, environmentally sustainable product from the corn wet milling industry. To learn more about Lysto, visit www.lystoprotein.com or call 866-369-5498.

Blair, Neb., flood update

Eric Bell, Product Line Manager

The Missouri river continues to be well above flood stage. We hit peak flood stage in early July and have seen some modest decreases in water level since then, but we are still well above flood stage. According to the U.S. Army Corp of Engineers, the plan is to remain at this high river level into at least August. The good news is that we've finally started to see some decreases, although small, in reservoir levels across the Dakotas and Montana.

We are confident that our facility in Blair, Neb., is protected. We have built a three-mile berm to protect our facility, raised our rail tracks and added pumping capacity for water management. We have protected our electrical distribution and put

plans in place to run a truck-only plant in the event of rail service loss. We continue to move forward with accelerated expansion plans and anticipate having additional volume on-line at our Dayton, Ohio, location in the next few months.



Cargill facility in Blair, Neb., along the Missouri River
Photo Courtesy of Lee Valley, Inc.
www.leevalley.net



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

EMPYREAL®
75
dependably pure.

Update on the Food Safety Modernization Act

Stephanie Adams, Feed Safety and Regulatory Specialist

On Jan. 4, President Obama signed into law the Food Safety Modernization Act. This new legislation will apply to both human food and animal food, and it is the biggest change in U.S. food/feed safety laws since 1938.

The law requires all facilities registered with the FDA under the Bioterrorism Act of 2002 – including feed and feed ingredient manufacturers, pet food manufacturers, feed mills and grain elevators – to meet three core food safety prevention provisions.

These provisions are as follows:

1. Conduct a hazard analysis of processes and operations for any known or reasonably expected hazards that would cause products to harm animals or people. Chemical, physical and biological hazards must all be considered, such as mycotoxins, pesticides, unapproved additives and introduced hazards.
2. Implement risk-based controls to significantly minimize or prevent identified hazards that would make food/feed adulterated or misbranded. These controls need to be risk-based, appropriate, and take into consideration current scientific understanding and knowledge of safe food/feed manufacturing, handling and storage. There are many risk-

based controls to consider, such as sanitation, pest control, ingredient verification, recall plans, site security and training.

The controls need to be monitored and verified for effectiveness, and documentation must be kept for no less than two years. The law requires that controls and hazards be re-analyzed every three years or when a significant change is made to the process.

3. Develop a written food/feed safety plan that describes and documents the hazards and controls for the product. The plan will need to be updated each time the hazard analysis and controls are updated. There should be written records of corrective actions, monitoring and verification activities. The plan also needs to be available to the FDA upon request.

The FSMA also includes provisions for increased FDA authority to request mandatory recalls and view records. The FDA is expected to issue as many as 50 guidance documents in the next two years that cover a wide range of topics including sanitary transportation of animal food, food defense, laboratory testing, facility inspections and new requirements for importers of food and feed.

Your Empyreal 75 team: offering supply-chain solutions

Zach Longhini, Export Sales Manager – Protein Ingredients

The Empyreal 75 team offers personalized customer service tailored to your individual needs. However, we are also able to take advantage of being part of a large corporation when it comes to customizing supply-chain solutions to meet your requirements in as efficient a manner as possible. Our export operations take advantage of a number of different modes of transportation in order to ensure the utmost in efficiency and timely delivery of product to meet your production schedule. We can begin shipping in quantities as small as a semi-trailer and have the ability to ship vessel-hold quantities of our product – as well as everything in between.

For those of you new to exporting and supply chain, the primary modes of transport are truck, rail, container, barge and vessel. A railcar will typically hold as much product as

four trucks. Containers are typically of a similar size to a truck shipment. One barge can hold up to 17 railcars or 68 trucks of product. Vessels can vary widely in the amount of product that they can carry. The smallest are known as Handysize vessels. After that comes Handymax, Panamax (the largest vessels that can travel through the Panama Canal), Suezmax (the largest that can pass the Suez Canal) and Capesize (those too large to pass through canals, which have to travel around the Cape of Good Hope or Cape Horn). Capesize vessels hold a *minimum* of 45 barges, or 765 railcars, or 3,060 trucks of product but can be large enough to contain approximately 235 barges, or 3,995 railcars, or 15,980 trucks. The largest container ships can carry as many as 15,000 containers at a time.

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Market Insight

Lee Bohling, Sales Manager Protein Ingredients

It's a summer full of volatility again as the market deals with the July 12 USDA Supply/Demand report. The trade is still reeling from the Stocks and Acreage report that increased corn acres and stocks for corn. The trade will want to see if the USDA will make more corrections, as many feel that acres have been lost in the flooding along the Missouri and the eastern corn belt as a result of conditions being too wet in May and June, and that these conditions have not yet been accounted for.

I still expect December corn to trade in a \$5.75 – 6.75 range until we get yield confirmation at harvest. November beans will trade in a \$12.75 – 13.75 range and December meal in a \$325 – 360 range until harvest. 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. I look for Empyreal 75 to continue to stay in a relatively tight pricing range over the next few months as the proteins in general have not reacted as radically as grains through all of this. Please give us a call if you have any questions.

A lot of questions are being asked due to the cool conditions we saw this spring and how these conditions have impacted yield potential on corn. I will try to answer a few of the main agronomy questions I have heard in regards to yield potential. May through early July typically brings plenty of heat and good growing conditions, moving the crop into the seasonal period where growth is very rapid. A number of developmental processes that help determine yield are underway. At the six leaf stage (usually 12" high) the number of rows of kernels is being established, which is essential for achieving maximum yield. Most ears will have 12-14-16 or 18 rows of kernels, so it is important that the crop is not stressed during this time as a large percentage of the yield potential is being set.

Betty McPhee joins Cargill team

Betty McPhee has joined the Empyreal team, bringing with her nearly 20 years of pet food industry experience. McPhee will support the Empyreal and Lysto brands in the pet and aqua industries on a global basis. McPhee has worked with

At the eight to 10 leaf stage the plant is knee to waist high and shoots new leaves every two to three days. The root system is 18" deep and should be 15" across. The general rule of thumb (corn and beans) is that however tall the plant



Compared to other grains and proteins, Empyreal® 75 has seen very little price movement.

is above ground is how deep the root system should be below ground (under ideal conditions). Compaction, soil type and moisture all affect this. During the 12-14 leaf stage (6-7' tall), the potential number of kernels/row is being determined. Brace roots are developing, nutrient uptake is rapid and the stalk is brittle due to rapid growth. This makes it susceptible to greensnap (wind). Moisture or nutrient stress at this stage can seriously reduce yield potential. A normal ear would have 14-18 rows with 30-45 kernels/row which would give you 420-810 kernels/ear. As you can see, the yield potential can swing 50%; for a population of 28,000, the kernel counts listed above would give you a yield of 130-250 BU/A.

both the manufacturing and ingredient supplier side of the pet food business and has been actively involved with AFIA, PFI and AAFCO.

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