

Aquaculture

Cargill making its mark in the aquaculture industry

Cargill Animal Nutrition's combination of selective acquisitions, innovative tools and resources, and nutrient-based approach to aquaculture production makes them a serious player in the industry. The company's stated commitment to creating innovative solutions that improve aquaculture production is evidenced by its actions in the past few years. Recently, the construction of a new aquaculture research facility was completed.

By Dick Ziggers

Diets deliver more than ingredients. That's why Cargill considers nutrients to be its foundation. That passion for understanding nutrients (including supply and demand) enables decisions to be made faster, and fuels the drive to define, assess and supply nutrients, resulting in stronger animal performance.

Over the years, Cargill Animal Nutrition has grown its nutritional expertise, including pioneering work in amino acid availability and balance, digestible energy and available phosphorous. It continues to

refine all of its capabilities as part of an ongoing commitment to improve performance and consistency. This in-depth understanding translates into precise diet formulation and consistent animal performance - critical factors in helping customers realise distinctive value.

More than equipment

Cargill Aquaculture understands that a series of steps toward a desired outcome requires processes, not just products, that profile ingredients (the AutoCalc™



The new aquaculture research facility in Elk River enables Cargill Animal Nutrition to carry out nutrition research on multiple aquatic species with different life stages and environmental requirements.

system), review suppliers (the Optimum Value Supplier Database™ system) and provide food system discipline (the Feed for Food™ process), to name a few. Each process is critical to ensure that the proper controls are in place - from nutrient sourcing to nutrient metabolism to nutrient outcomes - for consistent results.

Of course, innovations and processes must be applied to realise value. The best aquaculture production depends on a network of expertise threaded within and across businesses. Cargill innovations have resulted in more than 20 patents, with a portfolio and processes designed to support better performance.

Nutrition and production expertise

Nutrition needs determine the aquaculture portfolio. Based on specific customer needs, Cargill consultants develop nutrition solutions that include both products and processes. Products deliver nutrient technology designed specifically for a customer's requirements, such as the needs of individual species, production systems and animal life stages. Processes may be used to value ingredients, design diets or set animal performance using key systems.

Production expertise preserves nutrition from feed production to seafood production, requiring a broad understanding of all that it takes. Cargill Aquaculture refines its feed production insights every day by managing more than 160 feed plants using its own processes and measures to achieve world-class results. Commitment to customers includes animal production management and analysis using specific company developed tools that translate into distinctive value.

The Cargill team continually searches for the latest nutrient sources, suppliers, equipment and know-how. This helps lower a producer's costs and improve revenues by using Cargill's purchasing expertise, its supply chain understanding, and its nutrition network. These key areas are often overlooked in traditional approaches, and by other suppliers.

History

The history of Cargill Animal Nutrition in aquaculture goes back to 1990, and in the subsequent 10 years has dedicated full-time staff, primarily focused in Asia. Meanwhile, in 1996, the group launches LiquaLife™ feed - the first liquid larval shrimp feed on the market.

In 2001, Cargill purchased Agribrands International, with its 20 years of experience in the aquaculture industry and extensive knowledge of the Latin

American shrimp market. This acquisition is followed by the takeover of Burriss Mill and Feed Inc. in 2004, adding starter feed manufacturing capability and half a century of recognised leadership in the aquaculture feed industry.

The year 2006 marks several activities in aquaculture. Cargill purchases controlling interest in Matrix Biosciences in February and combines its nutritional technology and management systems with Matrix Biosciences' strong customer base and market presence. The venture is Cargill Animal Nutrition's first fully dedicated shrimp mill in Asia and also its first operation in India. In May, the Aquacel™ product line is launched, which offers specialised feed portfolios for warm- and cold-water fish, and marine species. Floating or slow-sinking extruded micro-particles are produced as small as 0.8, 1.5 and 2.2 mm - sizes that are easily consumed. Also, in May 2006, Cargill grants a royalty-bearing license to Ziegler Bros Inc., which permits Ziegler to manufacture and sell products using Cargill's proprietary technology.

Research facility

Finally, in September 2006, the construction of an aquaculture innovation centre in Elk River, Minnesota (US) began, enabling nutrition research on multiple aquatic species with different life stages and environmental requirements. This facility was completed recently.

The environmentally controlled facility consists of multiple research systems capable of handling a wide range of research objectives, including feeding trials using either freshwater or saltwater animals of various sizes and at a range of salinities and temperatures.

Initial feeding trials will use tilapia and hybrid striped bass; however, longer-term projects will include catfish and shrimp, as well as other saltwater species. Officials anticipate that the facility will be able to host up to a dozen major aquaculture studies annually.

"Being on-site at our Elk River innovation facility with cross-species technology teams enables us to combine strong innovation capabilities," says Ryan Lane, technology deployment manager. "The new facility allows us to increase and centralise our research efforts and work more effectively when we need to conduct research in other parts of the world."

The facility's first trials will involve benchmarking Cargill's current nutrient systems and defining additional nutrients to provide nutrient-driven solutions to the feed industry. ●