INFOFISH speaks to.....

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Q: *First, thank you for your invaluable personal and institutional support of the recently-held 5th INFOFISH World Tilapia Trade and Technical Conference (TILAPIA 2025). In your capacity as the US Soybean Export Council's East Asia Aquaculture Lead, could you provide readers with some background of USSEC itself and an update on the USSEC-led initiative to form the Southeast Asia Tilapia Association (SEATA) held on the margins of TILAPIA 2025?*

A: The U.S. Soybean Export Council (USSEC) works to build preference, improve value, and enable market access for U.S. Soy in international markets. We partner with customers and industry stakeholders across soy foods, animal feed, and aquaculture to support the use of high-quality, reliably supplied, and sustainably produced U.S. Soy through market development, technical collaboration, and knowledge exchange.

In aquaculture, USSEC has supported industry development by working closely with feed manufacturers, farmers, researchers, and other stakeholders to improve feed efficiency, farm performance, and sustainability outcomes. Our approach is highly collaborative and tailored to local needs, particularly across Asia, where aquaculture plays a critical role in food production and livelihoods.

Tilapia holds a unique position in Southeast Asia due to its adaptability, affordability, and long commercial history. Through our engagement across national tilapia industries in ASEAN, we observed that many of the challenges facing producers—such as productivity, sustainability, data quality, and market perception—were shared across countries. This created a strong rationale for closer regional coordination, which led to the formation of the Southeast Asia Tilapia Association (SEATA).

Tilapia 2025 provided an important opportunity to advance these conversations. By co-organizing the conference with INFOFISH and industry partners, USSEC helped bring together farmers, feed experts, researchers, and other stakeholders to exchange perspectives on best practices, emerging challenges, and future priorities for the tilapia sector.

Beyond conferences, USSEC's regional aquaculture teams are actively engaged on the ground. This includes supporting on-farm demonstrations, advising feed mills on formulation strategies, conducting trials, and sharing practical tools and data to help address issues such as feed efficiency, disease management, and sustainability requirements. A key part of our role is listening to industry challenges and working collaboratively to identify solutions that are practical, science-based, and commercially relevant.

The concept of the Southeast Asia Tilapia Association (or SEATA) came about through USSEC's previous efforts to help to either form or further develop national tilapia associations in the ASEAN region.

Through these efforts, USSEC aims to support the continued development of the tilapia sector in Southeast Asia by strengthening technical capacity, improving coordination across the value chain, and helping producers grow in a way that is both efficient and sustainable.

Q: *In your view, how will SEATA work with East Asian aquaculture industries in their efforts to enhance productivity while ensuring sustainability and traceability? What about other regions of the world – are there plans for similar bodies to be set up?*

A: SEATA is designed to support collaboration and shared learning within Southeast Asia's tilapia sector, bringing industry stakeholders together to address common challenges around productivity, sustainability, and market expectations. The initiative focuses on ASEAN countries, beginning with Indonesia, the Philippines, Thailand, and Vietnam, which together represent a significant share of regional tilapia production and have strong industry engagement.

A key objective of SEATA is to improve the availability and use of accurate, industry-level data. Tilapia producers across the region face many similar issues, and outcomes in one market can influence perceptions of the species more broadly. By encouraging data sharing and coordinated dialogue, SEATA helps the industry identify priorities, improve practices, and address challenges more collectively rather than in isolation.

USSEC takes a collaborative, hands-on approach in supporting these efforts. Across Southeast Asia, we work closely with producers, feed companies, researchers, and government stakeholders to share knowledge and build capacity. This includes organizing and co-sponsoring technical conferences and workshops, such as the Tilapia 2025, as well as day-to-day technical engagement by USSEC's regional aquaculture specialists. These activities help connect best practices in feed formulation, farm management, sustainability, and traceability to local industry needs.

Similar industry-led platforms exist in other regions. In Latin America, for example, USSEC has supported initiatives such as the Organization for Sustainable Aquaculture (OLAS). Together, SEATA and OLAS reflect USSEC's broader approach: supporting responsible growth in feed-based aquaculture by encouraging collaboration, improving data and transparency, and helping the industry strengthen productivity and sustainability over the long term.

Q: *One of the criticisms regarding Asian aquaculture is that culture intensity tends to be too high, which affects sustainability. USSEC is reported to have helped farmers China and Southeast Asia to implement the In-Pond Raceway System (IPRS), an approach developed in the United States for catfish farmers, as a sustainable path for pond aquaculture growth. Could you give readers an update on how IPRS aquaculture is working in these countries, and USSEC's role going forward?*

A: In many parts of Asia, where land and water resources are limited and population density is high, aquaculture producers are under pressure to improve productivity within existing pond systems. The challenge is not simply increasing intensity, but optimizing production while staying within biological, environmental, and economic limits.

The In-Pond Raceway System (IPRS) addresses this by allowing farmers to better control water quality, stocking density, and waste management within a pond environment. By concentrating fish in raceways and continuously circulating water, IPRS improves oxygen delivery, feed utilization, and waste removal, enabling higher productivity from the same water volume while reducing environmental stress on the pond.

IPRS has seen meaningful uptake in China and parts of Southeast Asia, as well as in Latin America, particularly where producers are looking for scalable, pond-based solutions rather than fully closed systems. While USSEC has played a supporting role through technical guidance and knowledge sharing, the continued advancement and adoption of IPRS is being driven by commercial producers, equipment suppliers, and service providers responding to market needs.

To support broader understanding and responsible adoption, USSEC has developed IPRS manual and materials. Today, there is an established ecosystem of commercial IPRS equipment and service providers globally. Going forward, USSEC's role remains focused on technical support and knowledge exchange, recognizing that IPRS is one of several tools available to help the aquaculture industry improve efficiency and sustainability.

Q: *Specific to feed formulation, what are the opportunities for soy usage in Asian aquaculture, and the associated challenges? This question is related to both on-land and offshore marine farming, which is a large part of Asian aquaculture (one study estimates that in 2020, 95.33% of the global offshore surface mariculture area was concentrated in Asia). Are there plans to develop a USSEC sustainability certification system for feeds?*

A: Soybean meal has become a cornerstone of modern aquafeeds because it is a high-protein, nutritionally balanced ingredient that can reliably replace a portion of marine ingredients. As global demand for seafood continues to rise, the use of soy in aquaculture feeds supports producers' ability to scale efficiently while managing cost and performance. U.S. Soy offers advantages in this context due to its consistent quality, digestibility, and well-understood nutritional profile, which help feed manufacturers maintain reliable formulations and predictable on-farm results across a wide range of species and production systems.

By incorporating U.S. Soy, aquafeed producers also benefit from verified sustainability practices at origin. This supports improved feed efficiency and growth performance while helping farmers, customers, and regulators gain confidence that feeds align with responsible sourcing expectations.

In Asia, key challenges related to soy use in aquaculture feeds are less about ingredient availability and more about variability in species, production systems, and farm management practices, which can make feed performance difficult to evaluate in isolation. These factors highlight the importance of professional feed formulation and close collaboration between feed manufacturers, nutritionists, and producers.

USSEC supports aquaculture feed efficiency – across both pond-based or offshore farming systems - through technical collaboration and practical tools that help feed manufacturers and producers apply soy ingredients effectively across species and production systems. This includes

knowledge transfer, formulation support, and science-based resources that improve feed performance, cost efficiency, and sustainability outcomes.

From a sustainability perspective, there are already well-established certification systems for aquaculture production, including the Aquaculture Stewardship Council (ASC) and Best Aquaculture Practices (BAP). In addition, the sustainability of U.S. Soy is verified through the U.S. Soy Sustainability Assurance Protocol (SSAP), which documents sustainable production practices at origin and is widely accepted by the industry. Feed manufacturers using U.S. Soy may also qualify for the Sustainable U.S. Soy and Fed with Sustainable U.S. Soy logos, which help communicate verified sourcing and sustainability credentials to customers and buyers.

Q: *We're now seeing that seafood produced in Asia is increasingly being sold to meet domestic demand due to rapidly rising incomes and demand for quality seafood in the continent. For instance, though China is the world's biggest consumer of seafood (by volume), imports have been declining slowly as domestic supplies rise. Would you agree that exporters in Europe and the Americas need to step up their game in understanding the Asian market better? What are some leading approaches you would recommend to exporters in Europe and the Americas who want to increase their sales of seafood to Asian markets?*

A: While seafood remains a globally traded commodity, production and consumption patterns are becoming more regionally anchored. As incomes rise and demand for seafood increases, particularly in Asia, a larger share of production is likely to remain closer to end markets. In this context, the United States may increasingly look to Latin America as a key producer, while Europe may see Africa emerge as a more important source of seafood. In Asia, improved incomes and a strong cultural preference for seafood suggest that a significant portion of production will continue to be within the region itself.

That said, high-quality products will continue to find demand beyond their regions of origin. There is already substantial seafood trade from Europe and the Americas into Asia, with salmon being a clear example despite limited local production. Asia also plays a major role as a global processing hub, with seafood imported for processing and re-exported to other markets.

For exporters seeking to grow their presence in Asia, success increasingly depends on understanding local market preferences and applications. Freshness and familiarity are highly valued, and in many Asian markets, freshness often means live or minimally processed products. Where live delivery is not feasible, particularly in premium segments, preserving product quality as close to harvest as possible is critical. New species may face challenges gaining market acceptance, but as the salmon category has shown, this can be achieved through clear positioning, targeted applications, and alignment with consumer preferences.

Q: *Moving on to other regions, in 2018, you completed a research project for USSEC looking into the potential for aquaculture in sub-Saharan Africa. You had made an interesting prediction: Africa will become a significant supplier of seafood to international markets. Your prediction seems to have been prescient; for example, delegates at the recent World Economic Forum 2025 said that Africa's growing aquaculture sector is worth investing in. What can countries in sub-Saharan Africa do to create an enabling policy and regulatory environment for investors while also protecting their own national interests?*

A: Specific to sub-Saharan Africa, the 2018 study I led for USSEC examined the region's aquaculture potential and highlighted that significant growth was not only possible, but already beginning to emerge. Improvements in basic infrastructure—such as transport and logistics—combined with increased investment, including from countries with long-standing aquaculture experience, have helped accelerate development. These trends help explain why Africa is increasingly viewed as a region of opportunity for aquaculture investment today.

Drawing on broader experience in aquaculture development, one of the most important factors is balance—particularly a willingness to learn from both the successes and challenges seen in more established aquaculture regions. In many parts of Asia, aquaculture growth has been supported by practical, industry-focused systems—ranging from technical services and disease monitoring to export facilitation and market access—which have helped create more predictable operating environments for private investment.

A key lesson from Asia is the government support for research and development in capital- and time-intensive areas such as hatchery technology. This early support can help overcome technical bottlenecks and establish best practices, before transitioning activities to the commercial sector to support efficiency, scale, and long-term viability. This approach has been applied successfully in markets such as Türkiye.

Another important consideration is balancing support for small-scale producers with the development of commercially viable aquaculture industries. While smallholder participation remains important, broader industry development can generate employment across the value chain—including feed, processing, and logistics—while strengthening long-term sector resilience.

Finally, attracting investment increasingly depends on data. Investors are generally more comfortable backing initiatives where performance metrics are transparent and comparable. For aquaculture production, building credible, long-term datasets on productivity, health, and returns will be critical to improving investor confidence and unlocking capital for sustainable growth.

Q: *According to FAO, by 2050 the world's population will reach 9.1 billion and nearly all of this population increase will occur in developing countries. In your opinion, is merely increasing the supply of farmed fishery products (including aquatic plants) enough to ensure food security across rural and urban areas, amidst challenges such as climate change? (This question is related to partnerships between government and industry, investment, policy frameworks, etc)*

A: Aquaculture is one of the most efficient ways to increase protein production and deliver high-quality nutrition to a growing global population. Aquaculture will play a critical role alongside other livestock in meeting rising demand, particularly in developing regions.

Climate change is an ongoing reality that affects all forms of food production. One potential strength of aquaculture lies in its diversity and adaptability. Aquaculture systems also offer flexibility through a range of production approaches—from open systems to more controlled, recirculating technologies—allowing producers to adapt to changing environmental and market conditions.

Low feed conversion ratios, wide acceptance of seafood products and the ability to rapidly change species and production approaches give aquaculture a strong capacity to contribute to global food security. Aquaculture offers meaningful potential for growth as demand for efficient, sustainable protein continues to increase.

Q: *And finally, what are some highlights that stand out for you throughout your career in the global seafood industry?*

A: Aquaculture was still a relatively young industry when I first started my career. Since then, I've seen it grow significantly, delivering greater seafood volumes, more efficient and sophisticated production approaches, and meaningful employment opportunities across the value chain.

One of the most important highlights for me has been watching aquaculture increasingly recognized as a key contributor to global food security. Its future growth will depend on doing more with fewer resources—improving efficiency while maintaining environmental and social responsibility. From a feed perspective, this has meant a steady shift toward ingredients that support animal performance while also meeting higher sustainability expectations.

Soy-based feed ingredients have become an integral part of that shift. Over time, soy has proven its value in aquaculture feeds due to its consistent quality, strong nutritional profile, and flexibility across species and production systems. As sustainability requirements continue to evolve, responsibly produced feed ingredients will play an even more important role in helping producers meet both performance and market expectations.

Another major highlight has been the growing role of innovation and data in aquaculture. Tools that support better feed formulation, farm management, and decision-making are helping producers improve efficiency and reduce risk. Supporting this kind of practical, data-driven progress—through technical collaboration and knowledge exchange—has been a rewarding part of my work.

Finally, on a personal note, one of the great pleasures of working in aquaculture and seafood has been the people and the food. The opportunity to experience some of the freshest, highest-quality seafood, and to share it with passionate professionals around the world, has made this career especially fulfilling. I remain optimistic and excited about where the industry is headed.

Credit: U.S. Soybean Export Council