

SPACE 2022: A focus on climate and youth



SPACE took place from September 13-15 in a very warm and positive atmosphere, marking its 35th anniversary. The full scope of the livestock industry was represented, from cattle, pigs, goats and sheep to poultry, rabbits and aquaculture. This 36th edition at the Rennes Exhibition Centre saw more than 90,000 visitors; 8,406 from 120 countries and close to 1,200 exhibitors, of which 300 were international businesses and 250 were taking part in this expo for the first time.

The event recovered its full international dimension after two years. Delegations from around the world came to meet exhibitors and visit farms. Many contacts were established with delegations from West Africa (including Senegal, Côte d'Ivoire, Mali and Benin), Cameroon, the Democratic Republic of the Congo, Morocco, Algeria, Vietnam, the Philippines and numerous European countries. Talks organised for the first time in partnership with Promosalons led to important business exchanges with top buyers from Colombia, Chile, India, Saudi Arabia, Turkey, Morocco and Nigeria.

During these years marked by drought and the soaring price of energy and raw materials, climate change was the annual theme developed by the Espace for the Future. Through the numerous debates, conferences, products and equipment presented by exhibitors, SPACE 2022 provided an opportunity to show that agriculture stakeholders are already taking measures aimed at reducing the impact of livestock farming on the climate.

Innovations in the sector, rewarded with the InnoV'Space label (36 winners this year), also highlighted the continuous progress achieved in the world of agriculture. The winners offered visitors new solutions for animal

welfare, protecting the environment, health and safety and improving farmers' working conditions.

A new feature of this year's event was the first Youth Forum, a space for young people organised in collaboration with agricultural teaching networks and opened by the Minister of Agriculture and Food Sovereignty, Marc Fesneau, at the start of the expo. This new space enabled young people to voice their visions for their future jobs. They could also express their motivations and questions to Loïg Chesnais-Girard, President of the Brittany Region, who paid very close attention to their points of view.

This event is also unique for its capacity to host around numerous conferences each year, allowing all stakeholders in the agricultural sector to learn about and discuss topical issues such as new technologies, solutions for reducing climate impact, establishing and selling farms, protein self-sufficiency, research into new fodder crops, etc.

The next edition will be from September 12 to 14, 2023, at the Rennes Exhibition Centre.

Aquaculture at SPACE: Advances and trends in aquafeeds

Aquaculture is the fastest growing animal production sector. SPACE highlighted the aquaculture sector by identifying those involved in aquaculture and aquafeeds. There were two half day aquafeed conferences; Zuridah Merican, *Aqua Culture Asia Pacific* and Guillaume Le Reste, *Halieutica* organised these in English and French, respectively.



The conference on Advances in Aquafeeds started with an overview on **global aquafeed demand, outlook and trends** presented by **Ronnie Tan**, Aquaculture Consultant, US Grains Council. Ronnie said that global aquafeed production in 2021 rose 3% to 49.4 million tonnes, led by Asia and Latin America at 3% and 8% respectively.

Global shrimp feed production was slightly over 7 million tonnes in 2020, mainly from 2 regions, Asia and Latin America. Feed conversion ratios (FCR) ranged from 1.4-1.8 depending on survival rates and disease issues. Major feed ingredients are marine meals and high protein plant meals such as soybean meal and corn gluten meal (CGM).



Speakers at the Aquafeed conference, from left, Pierrick Haffray, Ronnie Tan, Jean Peignon, Guillaume Le Reste, Stéphane Ralite and Herve Lucien Brun.

Norway led the global salmon feed production of 3.2 million tonnes in 2020 at 51%. FCR was stable at 1.2 due to good genetics and high fat content for energy and protein sparing.

China, Egypt, Indonesia, Brazil and Bangladesh led the global tilapia feed production amounting to 9 million tonnes in 2020. FCR depends on harvest size and ranged from 1.1 for 350g fish to 1.9 for 1kg fish. Feed ingredients were mainly locally available plant protein meals. DDGS is well suited for this species.

Vietnam had the largest share (51%) of the 4.5 million tonnes of pangasius feeds produced globally. In addition to SBM, low priced ingredients such as rice bran and tapioca meal are used to produce cheap feeds priced at USD550/tonne.

Challenges with high SBM & CGM prices, have led to feed price increases of 10-15%. The opportunity is for new proteins meals, like single cell proteins and insect meals. Regular DDGS with 28% crude protein (CP) and HiPro DDGS 50% CP, both show value and availability. The industry will need to watch for high inflation and the looming recession.

There is a diverse **aquafeed and aquaculture industry in Africa**, said **Guillaume Le Reste**, Haliutica, France. Aquaculture production grew 75% in the last decade, the fastest globally. Farmed fish production is mostly in Egypt and Nigeria, with tilapia and African catfish *Clarias garipenus*, respectively. Africa used 1.5 million tonnes of aquafeeds in 2021, which was 3.0% of global aquafeed production. Aquafeed production ranges from farmed-made to industrial production of extruded feeds. Investments in aquafeed are in small scale 100-500kg/hr/line to industrial lines.

Challenges in aquafeed production include raw material quality and variation. For example, the composition of peanut meal will differ vastly depending on the oil extraction process. Training in feed management is crucial to make better use of the feeds. Today the feed market is shared among pureplay multinational aquafeed producers and multispecies African feed producers. Another challenge for feed expansion in Africa is cost of feeds. Tilapia feed prices range from USD850 to USD1200/tonne whilst imported tilapia fish from China cost only USD1.53 for 800g fish.

In **precision nutrition**, **Jean Peignon**, Aquaculture Nutritionist, Aquaneo, Groupe Techna, France, says that it all starts with the understanding of animals and their requirements. The first step is finding requirements according to species, age, farming conditions, genetics,



Visitors from Ecuador, Julio Zambrano and Magola Munioz.

etc. Next is ingredient selection and matching materials nutritional characteristics with the specific animal's nutritional requirements. AquaNeo has the formulation expertise, to bring the right quantities and qualities of nutrients, at the right price. Functionality aspects with added minerals and vitamins as well as functional additives are the subsequent steps. The process is completed with optimisation in feed processing.

Herve Lucien Brun, Consultant, France, said that **feed optimisation** is always a critical need as shrimp feed accounts for 53% of total costs in Ecuador and 67% in Vietnam. The difference is due to the intensification of the culture system. A goal is to improve FCR and so decrease the cost of production. However, farmers pay little attention to digestible protein in aquafeeds. Optimisation of protein retention efficiency ratio (PRE), will reduce feed conversion ratio (FCR). "To do this, we optimise feed formulation, using enzymes," said Herve, adding that in a farm trial in Ecuador where protease was added in extruded shrimp feeds containing marine meals or plant meals, margins were best in 28% shrimp feeds with added protease. Herve correlated this with the reduction in the nitrogen effluent load per tonne of shrimp produced over a 12-month period. "Over these two years, with rises in raw material prices, formulators are looking for some solutions to improve feed costs since prices of fish and shrimp may not change," added Herve.

Pierrick Haffray, Manager of SYSAAF Aquaculture Unit discussed **advances in nutrition and selective breeding** to improve fish farming efficiency and ecological impact. SYSAAF is the French association of poultry, aquaculture and insect breeders. Amongst the 33 breeding companies in the association, 20 are in aquaculture. In terms of interactions between nutrition and genetic improvements, Pierrick listed aspects such as feeding efficiency, feeding practices, growth and resistance to diseases.

NEXT ISSUES

January/February 2023

Issue focus: Nursery & Hatchery

Industry Review: Production Innovations

Feed/Production Technology: Functional Feeds/Additives; Controlled Systems (hybrid/RAS)

Deadlines: Articles and Adverts - November 23, 2022

Show distribution: VIV 2023, March 8-10, Bangkok, Thailand

March/April 2023

Issue focus: Health & Disease Management

Industry Review: Marine Shrimp

Feed/Production Technology: Fish Meal/Oil Replacements; Offshore and Industrialisation

Deadlines: Articles - January 18 / Adverts - January 25

Show distribution: World Aquaculture 2023, May 29- June 1, Darwin, Australia

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At the aquaculture conference in French, Simeon Fagnon, Phytosynthèse, France presented on the role of botanicals on gut health.

He discussed findings from a selection of research conducted by various groups in Europe. One example is the work by Vandeputte et al. 2022 which compared a rainbow trout line selected in freshwater for fillet production for ten generations with an unselected control line from the same base population. Growth, FCR, carcass yield and lipid content strongly improved with selection. Based on this and other research, Pierrick observed that tailoring feed composition to the new and future genotypes is a real perspective. However, collaboration between nutritionists, geneticists and the feed and the farmer is needed.

While most farmers and feed producers work at optimising feeds per se, **Stephane Ralite**, Aquaculture Expert, Lallemand Animal Nutrition, France, said that a good



feed is of no use in a bad pond environment. In shrimp farming, **optimising the environment** is not easy as the pond environment is a very complex ecosystem. While the aim in shrimp farming is to reduce water exchange to avoid the risk of introducing diseases into the system, by adding a lot of feed and avoiding water exchange, the water must be treated. Stephane discussed the critical role of nitrogen which comes from feed and where a large portion ends in the sediment and water column. Ammonia can be toxic and impairs feed conversion and growth. Lallemand, which produces bacteria and yeast, has a bank of microorganisms. He described the applications of bioremediation bacteria in Indian shrimp ponds to improve water quality, control *Vibrio* loads and increase productivity.



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