Report for the Euroshrimp and Shrimp Scientific Sessions at AE2019 Berlin

Chairs: Gregor Jähne and Matt Slater

A whole day of shrimp sessions was held in Exhibition Room 2, beginning with the Euroshrimp (industry) session and followed by the Shrimp scientific oral presentations session. 116 participants attended the sessions over the day. Thus, murmurs moved rapidly to "bring a chair" once the sessions began. A large and diverse set of speakers were invited and discussion was vigorous and the questions arising rigorous.

The Euroshrimp session began with certification of shrimp product from RAS systems in Europe. Stefan Bergleiter of Naturland, presented results of consumer and retailer survey indicating "bio" labelling is unlikely to be a reality in the near future for RAS shrimp, and Kathrin Steinberg, of the Aquaculture Stewardship council presented the ASC metrics and their aims to certify more shrimp producers in the future. Improved economic efficiency through reduced salt costs for artificial seawater was presented by Andrew Ray of Kentucky State University, with a convincing new method for domestic salt inclusion. Eric de Muylder of Crevetec presented growth data from zero-water-exchange RAS systems and showed how *Vibrio* infections can be avoided through appropriate biofloc management. Nicola Scalise of Ecoshrimp provided a thorough insight into the hatchery establishment and operation process in Europe with many practical examples and outlined his view of the market and the space for providers of hatchery animals. This was exquisitely added to by an overview of Bernaqua's Daniel Arana's experience of larval production of shrimp worldwide. Nerijus Nika rounded off the session with an overview of the shrimp research facilities in Lithuania at Klaipėda Science and Technology Park, while David Basset gave a highly enlightening (and entertaining) presentation of the EURASTIP platform and its networking of the shrimp sector in Vietnam, Thailand and Bangladesh. While the discussion was lively, the consensus was that the sector is growing rapidly and enjoying strong investment and interest. There was great desire in learning from other nations, despite differences in shrimp production systems and methods. Warnings to avoid a "gold rush" and investment bubble were heard, and heeded. The importance of high quality European hatchery

production in the near future was agreed although many hurdles, economic and otherwise, remain.

The **scientific session** was highly diverse but attracted a great deal of attention and discussion. Joao Reis showed how increased feeding rate over the production cycle could improve feeding regimes when compared with automatic-feeders based on acoustic feedback. Alexandra Segelken-Voigt presented on the optimisation of stocking densities in RAS systems on the basis of experiments conducted in northern Germany at a commercial shrimp farm. Eran Hadas presented data on moulting mortalities at his extremely high-density shrimp farming facility in Israel, with insights into how to reduce mortalities during moulting. Yustian Rovi Alfiansah of Uni Bremen showed the association of specific bacterial groups strongly associated with white faeces disease outbreaks and drew correlations to extreme salinity changes prior to outbreaks. Also addressing disease concerns, Vikash Kumar demonstrated the role of PIRAVB toxin in mediating the pathogenicity of *V. parahaemolyticus* during APHND outbreaks and showed how plant extract inclusion in diet can increase HSP70 production and induce shrimp resistance to APHND. Finally, Ulfert Focken of Thünen Institut in Germany presented data on the benthic infauna in ponds and at pond outlets in Brazilian shrimp pond farming areas, showing singinficant changes in diversity and density in response to intensive farming as opposed to low-density / organic farms.

The session interest was extremely encouraging. European shrimp farming stands at the threshold of possible ground-breaking expansion. Can it overcome the bottlenecks it faces and avoid being just another flash in the pan? Good, global shrimp science is being created with European inputs. Strong collaborations with colleagues in the global South are driving positive development.