

FineFeedForFish

AQUACULTURE SUMMER SCHOOL



AGER 4F
ALGHERO, PORTO CONTE RICERCHE
24TH- 28TH JUNE 2019

Modern aquaculture is going through an important phase of rapid growth and technological evolution. Thanks also to the pressing results coming from scientific research, nutritional strategies are being improved, together with process sustainability and in turn product quality. Feeds directed to intensive breeding of fish available on the market nowadays are very different from the formulations that only 5 years ago could be found, both in terms of diversification and quality. The driving force behind this revolution in nutritional strategy are to be found in the need to make aquaculture more sustainable from both, environmental economic points of view; in the recent years a progressive increasing in the costs of aquatic resources has been observed, in particular fish meal and oil, which form the basis of aquafeed formulations.

The replacement of fishmeal with vegetable substitutes or other protein sources, is not a problem in itself, but for the fact that alternative protein sources, in addition to a different digestibility with respect to fish meal, show a different amino acid composition and lack in some key nutrients. They can also convey anti-nutritional or moderately toxic substances that require adequate compensation. The resulting issues can be summarized in possible reduction in the growth performance and in the quality of the fish, as well as their greater susceptibility to diseases.

However, the replacement of fish oil with other vegetable-based oils almost always leads to deficiencies in long-chain polyunsaturated fatty acids of the omega-3 type, EPA and DHA in particular. Even if finding suitable alternatives that would meet fish nutritional requirements is feasible, the quality of the fillets could be affected in terms of quality and quantity of such elements and no longer cover the nutritional needs of the consumer.

Recent scientific investigations, in particular related to the European ARRAINA project and, more recently, to the project Fine Feed For Fish (4F), financed by the AGER II consortium of bank foundations (progettoager.it/index.php/k2-blog/author/50-4f), but also from the InBioProFeed and Mysushi projects supported by Fondazione CaRiPlo, very useful indications can be derived. Starting from recent scientific achievements, indeed, the producers variably involved in the aquaculture supply chain can find a proper compromise in aquafeed formulations, as well as gain useful knowledge of the digestive and metabolic response of fish. This may allow them to elaborate new approaches and finally optimize and maximize fish rearing processes. From the same research projects useful information can be derived on sustainability, starting from the new economic balance of fish rearing to the development of suitable strategies to minimize the environmental impact of aquaculture.

In order to transform the new scientific achievements into innovations for the production sector, and therefore in value for the society, constructive interaction and sharing with the whole supply chain's stakeholders is required. At the same time, high-profile experts that will apply the new technologies on small and large scale must be adequately trained.

The Aquaculture Summer School project was born with the objective of sharing scientific and technological innovations with entrepreneurs, technical operators and administrators, professionals and consultants, students and young researchers. The objective is to exploit the results obtained during research activities, derived from evaluations in the field, from discussions in international congresses and transform them into concrete actions, into technologies and, finally, improve process and product for aquaculture.

The course will be held from 24th to 28th June 2019 in Tramariglio, Alghero (Sardinia, Italy), at Porto Conte Ricerche. It is open to 30 participants, that will be chosen by means of a public competition based on motivations and individual titles of each participant. The Course consists in 40 hours of activity and will include 22 hours of lectures, 4 hours of laboratory, 4 hours of seminars held by industry representatives, 4 hours of final workshop involving conversations with students and students' speech, 6 hours dedicated to the tour to a producing aquaculture farm and related discussions. Attendance at the lessons will be regularly monitored and at the end of the course participants will receive a certificate of attendance. ECM and CFU credits will be recognized to those who have regularly attended the activities and have requested them.