KEYNOTE SPEAKER

WASTE AND RESOURCE MANAGEMENT IN AQUACULTURE

Green perspectives

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Global aquacultural production of animal food exceeds traditional fisheries and amounted to 94.4 mill. tons in 2022, and this is expected to grow further due to demands for high quality protein and key nutrients. Fish farming produces significant amount of solid organic wastes and produces organic nutrient rich liquid effluents with significant potential for eutrophication and saprobiation. Presently, marine cage-based farming is not required any type of waste collection or water treatment apart from collection of dead fish. Hence, this represents a major source of marine pollution, and in countries with intense and extensive farming aquaculture is the main source of organic and nutrient loadings to the aquatic environment.

In Norway, the environmental footprint has now been acknowledged and further production growth requires better waste and effluent water management. Novel farming techniques and waste collection methods are now being tested and implemented, and a natural consequence is a need for fish waste collection and treatment. This also opens up for a significant recovery of organic waste valuables like energy (biogas) and nutrients (especially phosphorous).

In this presentation we will review waste and effluent management practices in cage-based fish farming as practiced in Norway, and present perspectives on a more sustainable production including the potential for resource recovery.