Silvia Colussi

KEY-WORDS:
AQUACULTURE· GENETICS · GENOMICS DISEASE RESISTANCE

PROFILE
I am a first-year PhD student in Agrisystem, specialized in Applied Genetics.

AFFILIATION

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LANGUAGES

Mother language

Level C1

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PROJECT TITLE
Selection of trout lines resilient to climate change for sustainable aquaculture productions

Steps of the research
- Genome Wide Association Study for lactococcosis and proliferative kidney disease
- Definition of cases and controls in natural outbreaks
- Genotyping using Axiom trout SNPs array
- Bioinformatic analysis using GCTA Software and FastBAT for gene association study

Expected Results
Trout lines resilient to lactococcosis and PKD

Research Contribution
The trout lines resilient to diseases, deriving from Italian strains, represent an innovative product that adapts to the needs of national productions. Moreover, the use of genomic selection for lines resilient to infectious diseases would allow the implementation of prevention measures leading to a reduction in the onset of outbreaks and in the need for pharmacological treatments.

Collaborations
Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta
Dr. P.L. Acutis and P. Pastorino

Why should you care?
Changing precipitation, temperature and climatic patterns affect the quantity, quality and seasonality of water resources. This involves to inevitable changes in aquatic ecosystems promoting the onset of physiological stress of fish leading to susceptibility to infectious diseases representing an economic burden on aquaculture.
Genomic selection of resilient fish lines could be used as adaptation strategy to support aquaculture productions counteracting environmental changes.