

## Research project IZSve 13/14

**Climatic changes and new pathogens in cupped pacific oyster farms: development and validation of rapid diagnostic tools for *Vibrio aestuarianus*, *Vibrio splendidus*, OsHV-1 and related variants.**

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In the last years European cupped pacific oysters (*Crassostrea gigas*) production suffered heavy losses because of the commonly called "summer mortality". Recent studies have shown that the main cause of mortality is attributable to a pathogenic variant of a virus, Ostreid Herpes Virus-1, often in association with the presence of bacteria, especially *Vibrio aestuarianus* and *Vibrio splendidus*.

There has been mortality reported in Italy as well, but the progress is affected by the breeding site so there's not enough data to proof *Vibrio* influence. During these years in Italy the summer mortality is present in some farms and not in others. This fact deserves to be deepened. The main project's objective is to development a rapid, cheaper, easier and effective diagnostic methods for the detection of the two *Vibrio*'s species (*V. aestuarianus* and *V. splendidus*), using Real-Time PCR directly from the matrix. At the same time it will develop a new method in Real-Time PCR aimed to enhance the laboratories diagnostic capability with respect to the research Ostreid Herpes Virus. Once the new diagnostic methods are developed, it will be tested on the field, and compared with the result of the current methods in order to be validated according to UNI EN ISO/IEC 17025:2005. Being able to perform rapid and effective tests allows to perform a variety of analyzes useful to better investigate the implications of these pathogens to the oysters farming.