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Study of the correlation between the occurrence of toxic algal blooms and toxins presence in shellfish farmed in marine and lagoon environment of Veneto Region (Northern Italy)

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Toxic algal blooms have become an increasingly important issue in the Veneto region (Northern Italy) in recent years. The periods of prohibition to collect shellfish due to the toxins accumulation are getting longer, lasting almost all year long.

Despite EU legislation on food hygiene set the possibility to use phytoplankton as an indicator for the management of shellfish production areas, to date the investigation of possible correlation between the occurrence of toxin producing algae in water and toxicity levels in shellfish flesh, which could allow an early warning system, has been difficult for many reasons, first of all the absence of chemical analysis enabling to dose the toxins in shellfish. Furthermore, the lack of a fixed sampling point, the often insufficient sampling frequency and the dissimilarity of phytoplankton sampling and analysing methods, contribute to affect a robust statistical data evaluation, together with the fact that in some cases shellfish flesh and water samples are not taken at the same time or place.

This study aims to set up an experimental sampling procedure at sites selected among shellfish productions areas located in Veneto Region, with the objective of enabling examination of any relationship between the occurrence of toxin producing algae and toxins in shellfish.