

# Increasing resilience of blue mussels in culture

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# Project objectives & aims

- Mass mortality of blue mussels in culture is a growing problem in Europe
  - Exact cause is still unclear
- 1) Gain a better understanding of the possible causes
  - 2) Investigate possible innovations to enhance the resilience of mussels and minimize mussel die-offs

**Workplan:** Interviews, Workshops, Review



# Results: Interviews

- 6 Dutch mussel farmers

## General main finding:

- 5 out of 6 farmers recognize that there has been an increasing trend in mortality events in recent years

## Possible causes mentioned:

- Genetically weaker mussels
- Diseases
- Pollution (dike reinforcement & flushing water)
- Changes in food availability  
→ Accumulation of stressors

# Results: Workshops

International discussion held on August 31th:

*To what extent are mass mortality events in marine mussels an issue in your country?*

- In most European countries there are increasing concerns about declines in blue mussel populations
- Reduction in recruitment and mussel condition/growth were mentioned more often than mortality events



# Results: Literature review

*How do multiple-stressors affect the physiology of blue mussels and contribute to mass mortality events in the North Sea's coastal areas?*

- Climate change related environmental stressors
- Pollution (plastics)



# Proposal new project LNV

*Decline of mussel populations in Europe: identifying regional trends, determining possible causes and identifying research questions*

## Workplan:

- Analyse data collected from Dutch mussel farmers → spatial and temporal patterns in mussel mortality in the Oosterschelde
- Scientific review: Collaborative paper with European mussel researchers exploring local trends in mussel resilience, growth, and mortality, identifying potential environmental factors and knowledge gaps for future research.

# How this project helped the mussel aquaculture sector

- Gain insight into the extent of the problem and how this resonates with Dutch mussel framers
- Connecting to research on a European level
- → Seed for a new project

