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Enhancing Pacific Oyster breeding to optimise national benefit

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Australian Government
Department of Industry, Innovation and Science

Business Cooperative Research Centres Programme

ASI Thoroughbred Oysters

Project overview

- Part of “Better Oysters”
- Focus on Pacific Oyster selective breeding
- Particular emphasis on POMS resistance
- Lead investigator – ASI
- Co-Investigators IMAS, CSIRO, NSW DPI, Flinders and SARDI
- Largest project in Future Oysters
- Budget ~ $1.8 million

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Project objectives

- Allow continued breeding in Tasmania
- Establish breeding in South Australia
- Genetic improvement in Tas and SA
- Improved Laboratory challenges
- Address biosecurity barriers
- Reduce generation times
- Genetic ID testing capacity

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Less of this……..

More of this…….

So what does that look like?

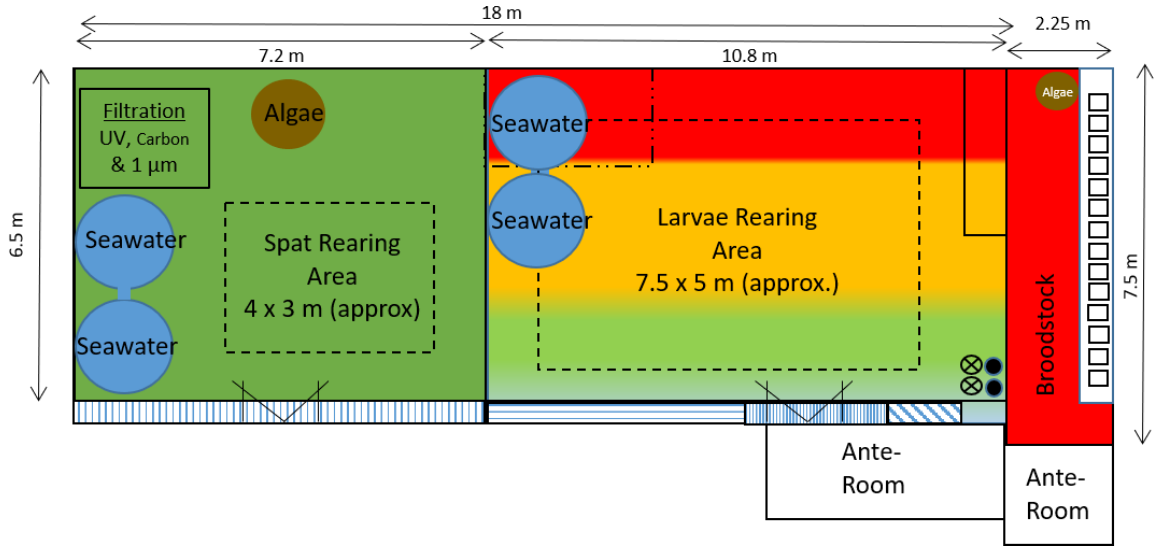

FV 3532


CSIRO

So what did we achieve?

Allow continued breeding in Tasmania

- Produced 3 year classes of families
- All tested POMS free
- Developed biosecurity plan
- IMAS facility biosecure certified facility



Establish breeding in South Australia

- 160 families produced
- Improved POMS resistance
- Commercial production from ASI families
- Industry insulation against POMS

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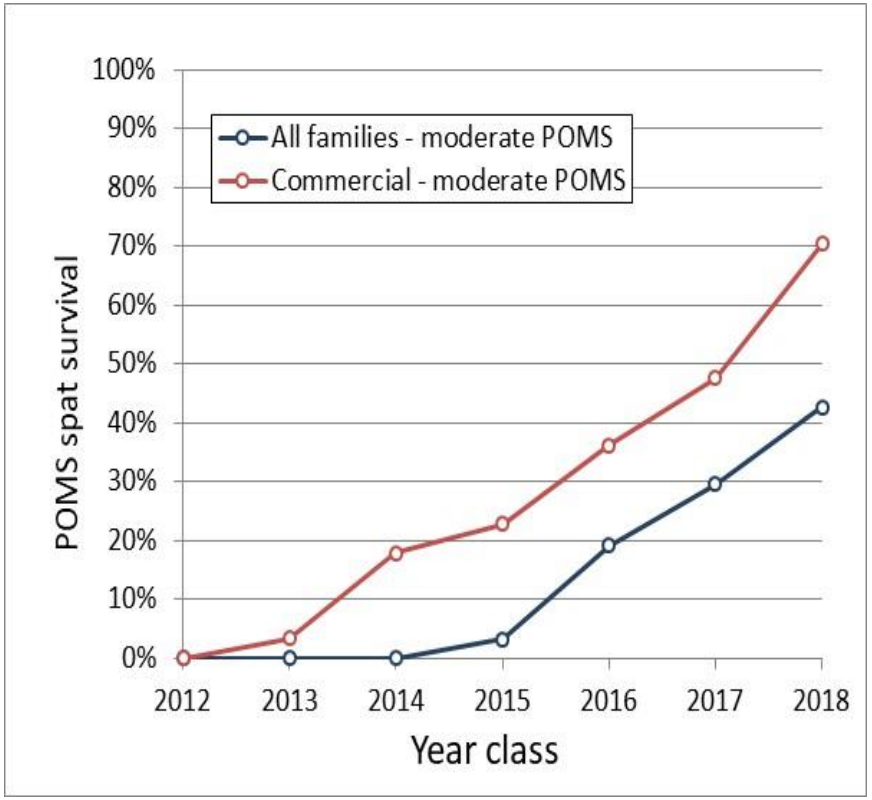
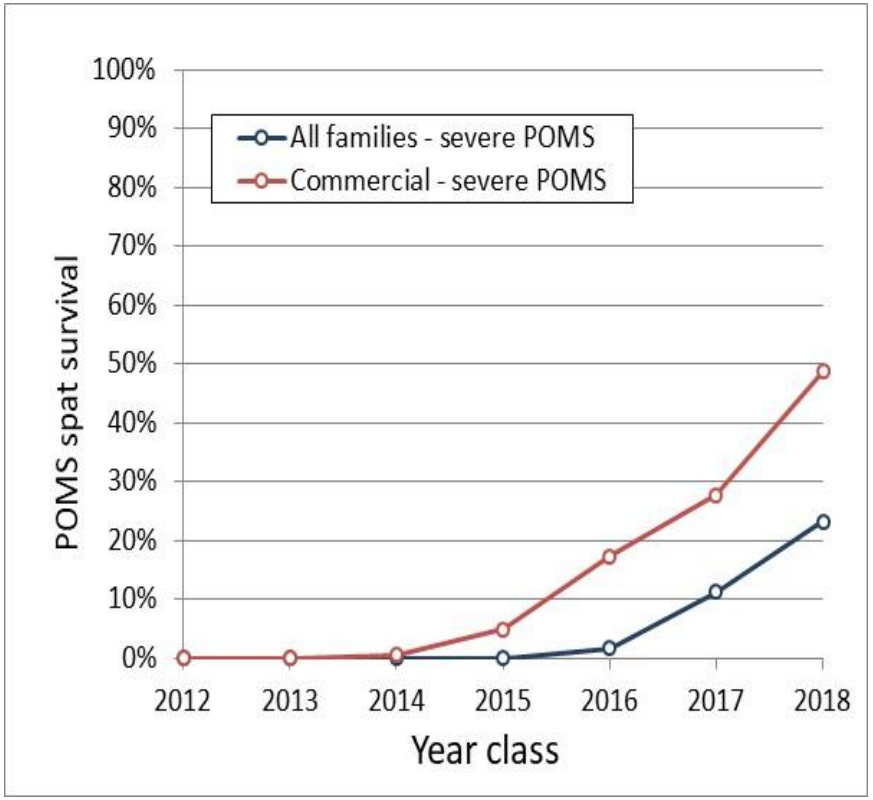
Genetic Improvement

- POMS breeding in Tasmania has been very successful





Improved Lab Challenges

- Lab Challenges have proved difficult
- We have seen improvements in some trials but consistency is an issue
- Hygiene may be an issue??
- Hasn’t affected industry outcomes

Reduce generation times

- Increased usage of 1 year old broodstock from 5% to above 40%
- Increased POMS resistance across these families

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Address biosecurity barriers

- Engaged consultant to undertake risk assessment for translocation of spat form SA to NSW
- This was unsuccessful
- Now have Port River in SA to conduct POMS challenges




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Genetic ID capacity

- Genetic test developed
- Demand has not materialised as anticipated but we have the capacity if required

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Overall outcomes

- Very rapid recovery of the Tasmanian industry
- Developed breeding capacity in SA to help insulate that industry from POMS
- Outcomes to be realised in NSW by triploids from Tas – separate project underway




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Acknowledgements

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FRDC
FISHERIES RESEARCH & DEVELOPMENT CORPORATION

….and as always the industry for it’s ongoing support




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