



Exploring new oyster species in Queensland

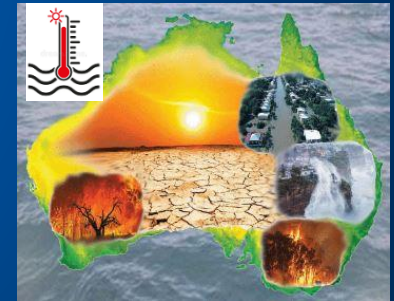
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The challenges for SRO farming in Queensland

The Queensland oyster farming industry has been exclusively based on just the Sydney Rock Oyster (SRO)

Queensland SRO face the same climate change and QX challenges as Northern NSW - but more extreme:

- Southern Queensland is already at the northern limit of the SRO's distribution and environmental tolerances
- Leaves SRO particularly vulnerable to impacts of global warming, marine heatwaves and more severe weather
- Cumulative environmental stressors increase SRO susceptibility to QX and frequency and severity of outbreaks



The Queensland approach:

Our strategy has been to identify suitable **native tropical rock oyster species** and develop appropriate hatchery and farming procedures, and capacity around these species.

The two species that we are focussing on are the:

Blacklip Rock Oyster (BRO)



Queensland Sunshine Oyster (QSO)



The blacklip rock oyster (*Saccostrea spathulata/ echinata*)

- Typically has a black upper shell and a “black lip” inside the shell
- Endemic to Northern Australia
- Little geographic overlap between established populations of BRO and SRO
- **Not currently recognised as endemic to Moreton Bay**, so farming BRO in Moreton Bay is not currently permissible
 - Research is undertaken under strict permit conditions
 - Industry is seeking approval to farm in Moreton Bay

Thanks to the Griffith Uni Oyster Molecular Team for all genetics and distribution results



The blacklip

Is a large, heavy shelled, exceptionally robust oyster



Farmed blacklips



2-year-olds



3-year-olds



Blacklip consumer feedback

Not yet generally available but highly regarded in NQ and sold at a premium Hamilton Island restaurant

BRO introduced to Brisbane at the Ekka – *Picture grabs from the Queensland Agriculture Facebook video 29/8/2025*



- Excellent flavour... stronger and more minerally than SRO with firmer texture
- Suited to fresh, cooked or smoked

The “Queensland Sunshine Oyster” (*Saccostrea Lineage G*)

Queensland Government

- 1) Only identified in Qld in 2019 by Griffith Uni and just known as “Lineage G”
- 2) Endemic to the entire east coast of Qld
- 3) Wild QSO look exactly like SRO and can only be differentiated through genetic analysis



- Little was known about the QSO as they had never been intentionally farmed or produced in a hatchery
- Initially speculated that QSO could potentially provide a useful alternative for SRO farmers
- This now appears to be the case



- Farmed QSO are medium sized oysters with a gold to light brown colour and always develop a well-proportioned deeply cupped shell



- Best of the 2-year-old QSO
 - Some individuals exhibit excellent growth, but without any domestication the growth rate appears particularly variable



Largest 2½-year-olds



103 grams and 81 mm



Still in condition in April....

Late season condition



Photo of 1-year-old taken last week..... 21st May

Very few have yet reached market size

Most have a gold band

- can be off-putting to unfamiliar consumers
- promote as a “Sunband” and a distinguishing feature

Excellent flavour and texture

- Similar to SRO
- *“Very sweet, full flavoured and creamy”* (Daniell Dixon of Celebrity Cheff and owner of Shucks Oyster Bar)



Growth and survival in Moreton Bay

Outcome from 100 oysters of each species after year (August to July) and when exposed to a QX outbreak



SRO 15% survival (x = 6.4 g)
(growth = 3.8g)

QSO 72% (12.9 g)
(growth = 11.4 g)

BRO 96% (15.0 g)
(growth = 13.7 g)

Growth and survival observations

- **Both** tropical oysters grow better in warmer water
- Under the cooler SEQ conditions and repeated QX outbreaks both species
 - can thrive
 - and reach market size (50mm/ 50 gram) in 2 years

BRO



QSO

- In SEQ, all strains of SRO were highly susceptible to QX
- Still no indication of QSO being susceptible to QX
 - now being successfully stocked into the highest QX risk estuaries where SRO farming has been abandoned
- BRO can be susceptible to QX
 - but only under exceptional stress and exposure conditions

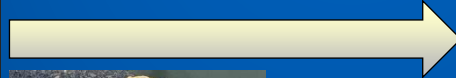
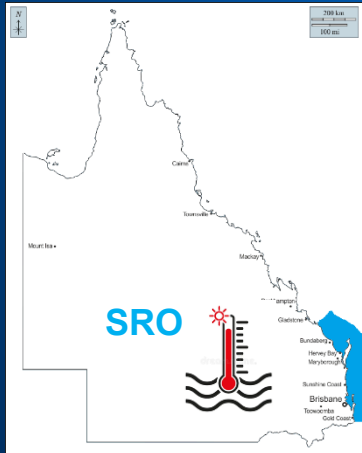
In practical terms they

 - demonstrate a high level of resistance to QX and exceptionally high general resilience and survival



Queensland's tropical rock oyster farming industry is still in its infancy, but both species have demonstrated excellent aquaculture attributes that:

- Provided oyster farmers with options for species diversification, QX resistance and warm water culture
- We have progressed from having just one species, that is only suitable for SEQ, to three species options
- Expected to facilitate a major expansion of the industry



What's next for tropical oyster RD&E?

Having developed reliable hatchery practices and confirmed aquaculture suitability.....



Now focus on converting this potential into **industry growth and development:**



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Convert potential into **industry growth and development**:

- Improve hatchery & nursery production to reliably provide advanced farm-ready spat



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- Support re-establishment of farms in SEQ estuaries where they have been abandoned due to QX



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- Assess seasonality of market condition for tropical oysters and maximise the cumulative market window for Queensland sales
- Promote consumer awareness of new species and evaluate consumer perception





**Queensland
Government**



QUEENSLAND OYSTER
GROWERS ASSOCIATION



FRDC

FISHERIES RESEARCH &
DEVELOPMENT CORPORATION

- All work has been undertaken in collaboration with the **Queensland Oyster Growers Association**
- Particular thanks is given to the **Queensland Government** and the **Australian Federal Government's FRDC** for their ongoing support and funding





Questions?

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Version 1.0