



## Discussion Note

# Potential for traditional UK farmers to diversify towards land-based seafood farming: the example of warm water king prawns.

Record of discussion held with a group of farmers (in-person) on 3<sup>rd</sup> April 2025 in South West England

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**Project website:** <https://sites.exeter.ac.uk/kingprawn/>

## **Discussion**

The discussion was held with a group of 6 farmers, representing approximately 2400 acres of farmland in South West England. The conversation explored the potential for farmers to diversify income through warm-water king prawn production using Recirculating Aquaculture Systems (RAS).

Farmers recognised that access to low-cost or “free” heat—particularly from nearby anaerobic digesters (AD)—could significantly improve viability, although only a few such facilities exist locally. Alternative heating options such as small-scale AD units or ground source heat pumps were considered. Water availability and quality also emerged as critical factors, including concerns about supply sources, chlorine content, salinity, and mineral composition.

Farmers showed strong interest in understanding the biology and supply chain of prawns, particularly lifecycle, larvae sourcing, and biosecurity risks. Reliable domestic hatcheries were viewed as essential to reduce reliance on imports and mitigate disease concerns. Market development was another major theme, with uncertainty about price competitiveness, demand stability, and routes to market. Branding and differentiation—emphasising freshness, provenance, and quality—were seen as key to success.

Operationally, the integration of prawn farming into existing agricultural workloads raised concerns, especially around labour peaks and required expertise. Questions also arose about system infrastructure, planning permission, welfare practices, and processing requirements. The scale of capital investment (potentially ~£900k) was perceived as a major barrier, with many viewing RAS as a high-risk, long-term or “generational” investment requiring strong leadership and potentially collaborative or supported models.

Farmers expressed interest in lower-risk, partnership-based approaches (e.g. contract growing or joint ventures), similar to poultry or beef sectors. Demonstration facilities and clear economic models were identified as essential to build confidence. Overall, while there is cautious interest in prawn RAS as a diversification strategy, significant uncertainty remains across technical, financial, and market dimensions.

## **Key questions**

- What are the precise water, heat, and infrastructure requirements for viable RAS systems?
- Where will reliable, biosecure larvae come from domestically?
- What is the lifecycle, disease risk, and management complexity of prawns?
- How will products be sold, and how price-sensitive is demand?
- What is the expected capital cost, payback period, and return on investment?

## **Interest points**

- Use of low-cost heat from AD or alternative sources.
- Potential for premium branding (e.g. local, fresh, high-quality prawns).
- Opportunities for joint ventures or contract farming to reduce risk.
- Demonstration farms as a tool for knowledge transfer and confidence-building.
- Exploring niche products (e.g. soft-shell prawns) and high-end markets.

## **Perceived blockers**

- High upfront capital costs and perceived financial risk.
- Uncertainty around payback periods and market stability.
- Biosecurity risks, especially reliance on imported larvae.
- Limited local infrastructure (e.g. AD availability).
- Planning, regulatory hurdles, and integration with existing farm operations.
- Concerns about public perception (e.g. “intensive” or non-natural production).

## **Summary**

Farmers discussed diversifying income via warm-water king prawn production using RAS, highlighting reliance on low-cost heat, water availability, and biosecurity. Strong interest was tempered by uncertainty over larvae supply, markets, and operations. High capital costs, risk, and long payback periods were key barriers. Opportunities include premium branding, partnerships, and demonstrator sites to build confidence and reduce risk over time adoption.