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Assessing the role of commercial practices in reducing phytosanitary risks

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Commercial produce in modern supply chains

For exports

- Production systems and supply chains are increasingly corporatised and globalised, with rapid uptake of digital technologies
- Often targets premium markets for premium prices
- Increasingly integrated supply chains (= data)
- Can be selling into demanding supply chains with their own audited, quality assurance requirements

Industry makes claims that these same drivers also effectively manage phytosanitary risks

Supported by anecdotal experience as a consumer

But, how can you provide confidence to risk analysts and regulators?

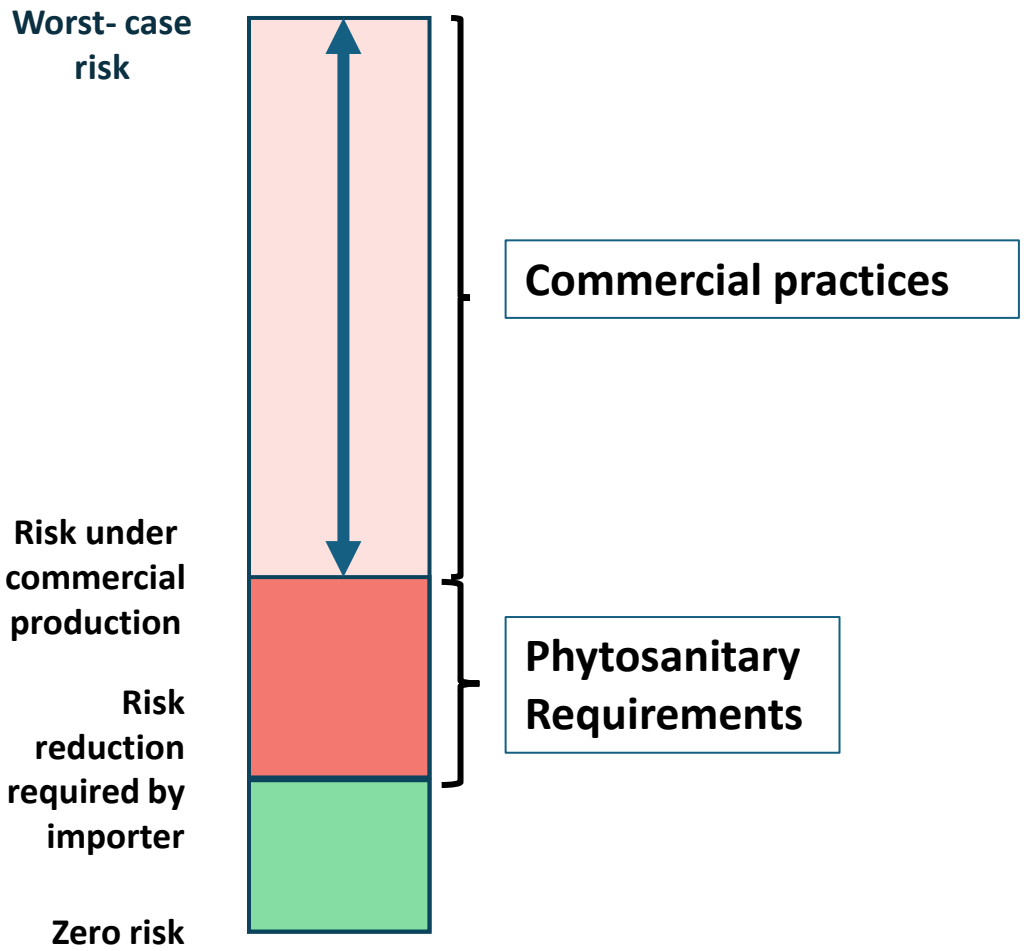
Examples of commercial accreditation schemes

Global G.A.P. Integrated Farm Assurance (e.g. production processes, integrated pest control, quality management systems)

Freshcare ("On farm management" and "Supply Chain") assurance schemes (Australia) for good agricultural practice to minimise food safety risks etc.

- *Measures are taken to minimise animal and pest presence*
- *Document and implement a plan for managing pests*
- *Pest control measures are monitored*
- *Manage access to the property (etc) to minimise risk of contamination of produce*
- *Maintain a product identification and traceability system*
- *Manage product transport to minimise risk of contaminating product*
- *Cleaning, sanitation and housekeeping activities are implemented on processing and storage areas*

Assessing & managing introduction and spread likelihood



What role do commercial "features" and practices play in reducing phytosanitary risk?

How to assess the extent to which industry practices reduce phytosanitary risk

1. Confidence in efficacy: How do they reduce risk, and how effective are they in doing so?

2. Confidence in implementation: How consistently are they implemented commercially?

1. How do commercial practices reduce risk?

- Map quality assurance statements and industry practices to Menu of Measures.

Quality assurance requirements:		Menu of measures:
"Pest management plans"	→	Pest management: IPDM
"Manage access to properties"	→	Pest exclusion: Pest-free inputs
"Fruit quality requirements"	→	Min. host vulnerability: quality specifications
"Refrigerated transport"	→	Reduce infestation rates: kill treatment

How much do they reduce risk by?

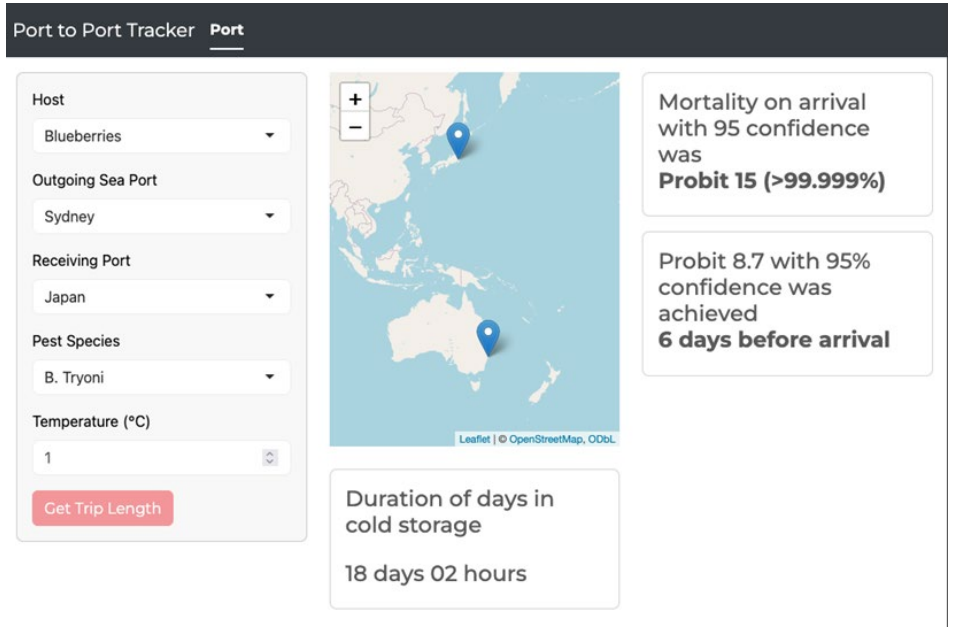
Measures	Measure description	Evidence	Efficacy
Pest management (IPDM)	*Industry-standard best practice pest management is required*	Evidence to show that required practices greatly reduce fruit infestation rates	Moderate
Pest-free inputs	*Manage access to property for people and production inputs*	Evidence that producers have strict processes that prevent entry of the pest through infested inputs.	Moderate
Minimise host vulnerability			
Quality specifications	*Strictly enforced requirements to maximise shelf life and price*	Data needed on whether infestation rates are lower in graded fruit	Uncertain
Reduce infestation rate			
Kill treatment	*Storage and transport < 3°C to maintain shelf life*	Empirical work and modelling showing that substantial pest mortality occurs under commercial conditions.	High

What type of evidence is needed?

Kill treatment	**Storage and transport < 3°C to maintain shelf life**	**High**	**Empirical work and modelling finds substantial pest mortality occurs under commercial storage conditions.**

Diverse data sources, e.g.

- Pest biology
- Expert opinion
- Observations
- Validation through inspection
- Empirical studies
- Modelling



Estimating cumulative mortality under commercial, refrigerated storage and transport

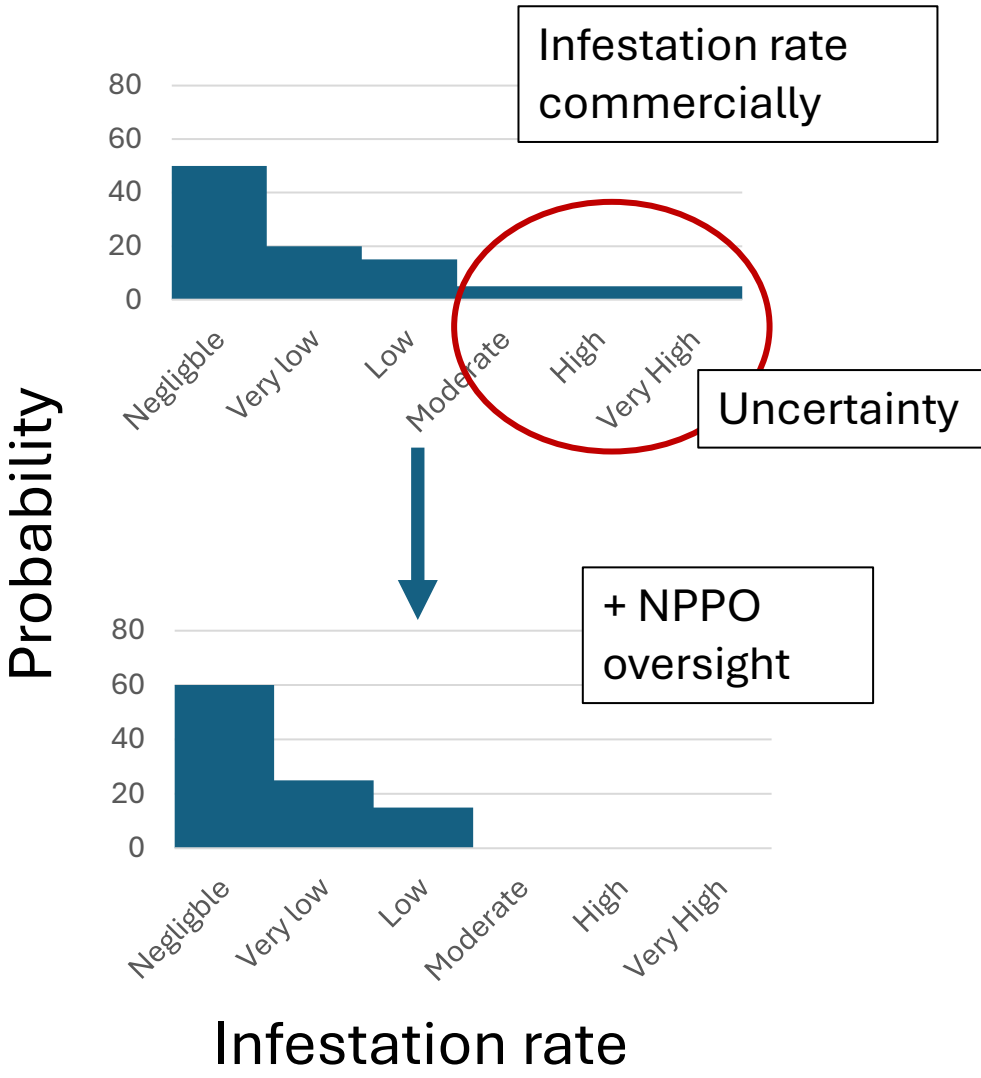
2. Confidence in implementation

Determining if there is a problem

- Does uncertainty in implementation result in unmanaged risk?
- Is that because of failure in one important measure, or multiple measures across the “QA scheme”?

Addressing uncertainty

- Can uncertainty in individual “problem” measures be reduced through improved NPPO oversight?
- Can uncertainty in “QA scheme” be reduced through improved assurance that the scheme has been correctly implemented?



Conclusions

- Commercial practices undoubtedly reduce phytosanitary risk
- Tools are available to objectively assess how, and whether it is sufficient, for any pathway of interest
- The effect of uncertainty in **efficacy** and **implementation** on risk management can be assessed and addressed
- NPPO oversight or additional phytosanitary measures may be needed if commercial practices/schemes alone don't provide sufficient assurance

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