

AUSTRALIAN
**Prawn
Farmers**
ASSOCIATION

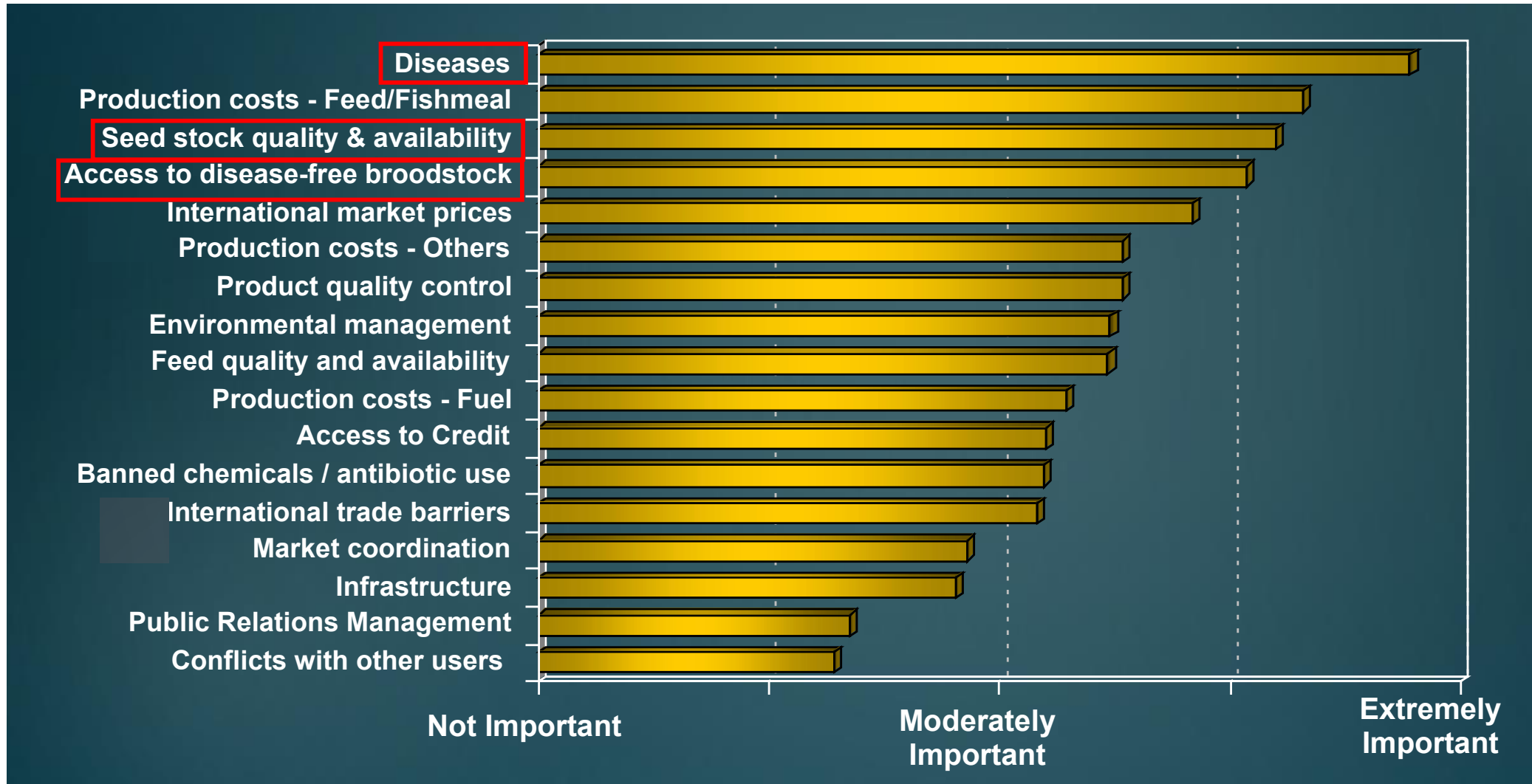
INDUSTRY BIOSECURITY STANDARDS

Status of the Australian Prawn Farming Industry

BIOSECURITY IN WORLD PRAWN FARMING

CHALLENGES & ISSUES IN WORLD PRAWN FARMING

2016 Survey of the Global Aquaculture Alliance



BIOSECURITY IN WORLD PRAWN FARMING

- Diseases are the most significant challenge.
- Billions of Dollars lost.
- Most devastating diseases: White Spot Syndrome Virus (WSSV); Early Mortality Syndrome (EMS) and more recently Enterocytozoon hepatopenaei (EHP).
- Lack of proper understanding of biosecurity risk management.

BIOSECURITY RISK MANAGEMENT

INTERACTION BETWEEN PATHOGENS AND BUSINESS CONTINUITY

Impact on BUSINESS CONTINUITY if pathogen present	Higher LEVEL OF BIOSECURITY RISK RELATED TO Lower				
	Prawns	Water	Live feeds	Equipment and Persons	Terrestrial Animals and Birds
EXTREMELY HIGH					
Broodstock production	X	X	X	X	
HIGH					
Broodstock maturation - Nauplii production	X	X	X	X	
PL Production	X	X	X	X	
MODERATE					
Nursery production	X	X		X	X
Farm production	X	X		X	X
Harvest	X	X		X	X
LOW					
Processing, effluent and wastes treatment from processing	X	X		X	
Quarantine and Diagnostic Lab	X	X		X	

GENERIC BIOSECURITY REQUIREMENTS

Impact on BUSINESS CONTINUITY if pathogen present	Pathogen free status	Water treatment	Indoor and fenced	Bird net and crab fence	Effluent treatment	Solid wastes treatment	Restricted access
EXTREMELY HIGH	??	?	?	?	?	?	?
Broodstock production	M	M	M	N/A	N/A ⁽³⁾	M	M
HIGH	?	?	?	?	?	?	?
Broodstock maturation & Nauplii production	M	M	M	N/A	N/A ⁽³⁾	M	M
PL production	M	M	M	N/A	N/A ⁽³⁾	M	M
MODERATE	?	?	?	?	?	?	?
Nursery production	R ⁽¹⁾	R	R	R	N/A ⁽³⁾	M	M
Farm production	N/A ⁽¹⁾	R	R	R	N/A ⁽³⁾	M	M
Harvest	N/A	N/A	N/A	N/A	N/A	M	M
LOW	?	?	?	?	?	?	?
Processing	N/A	N/A	M	N/A	M	M	M
Diagnostic Lab	N/A	N/A	M	N/A	M	M	M
Quarantine	M ⁽²⁾	M	M	N/A	M	M	M

Remarks:

- (1) As much as reasonably possible and depending if indoor or outdoor nursery.
- (2) For animals to be transferred to production units; except cases of non-lethal pathogens and if validated by general management.
- (3) Unless in cases of disease outbreak and if practically achievable.

M: mandatory
R: Recommended
N/A: not applicable.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

AUSTRALIAN PRAWN FARMING INDUSTRY
UNPREPARED FOR THE EVENT OF A DISEASE OUTBREAK

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

PATHOGEN FREE BROODSTOCK

- No biosecure broodstock facilities in Australia.
- No supply of pathogen free broodstock for the industry.
- Importation of certified pathogen free broodstock is forbidden.
- Wild or pond raised broodstock = inconsistent and low performances + high risk animals because of WSSV (+ other pathogens?) in Australia.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

QUARANTINE STRUCTURE

- No dedicated quarantine facility in Australia for broodstock screening.
- Currently, quarantine done within hatchery facilities.
- Most hatcheries in Australia located on the farm sites.

High risk of introducing pathogens.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

DIAGNOSTIC

- Limited number of approved diagnostic labs.
- Lack of dedicated properly sized aquaculture pathology labs.
- Lack of understanding of the importance of sampling and choice of tissues vs. detection.

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BROODSTOCK SCREENING

- ❑ Most important risk mitigation measure for pathogen exclusion.
- ❑ Varies among operators from full screening to zero screening.
- ❑ Ideal and safest protocol = multiple tissue destructive testing (+ breeding to next generation).
- ❑ Australian industry not equipped to do so.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

INLET WATER DISINFECTION

- Second most important risk mitigation measure for pathogen exclusion.
- Not all hatcheries disinfect their incoming water.
- None of the farms disinfect their incoming water.
- Current water filtration systems on farms do not mitigate risks of pathogen transmission through zooplankton.

Farming operations completely exposed to disease outbreak.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

PATHOGEN SURVEILLANCE AND PRAWN HEALTH MONITORING

- Incomplete or non-existent pathogen surveillance programs and health monitoring protocols.
- No systematic routine prawn health monitoring.

Highly critical under current WSSV situation + risk of other pathogens.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

DIAGNOSTIC FIELD TEST KITS

- Use of field diagnostic test kits common worldwide; forbidden in Australia.
- Essential tool for management decision (termination or harvest?) = fast disease emergency response = mitigate impact on infected operation and surroundings.
- Very critical under current WSSV situation.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

CHEMICALS

- Common cost-effective chemicals used for disinfection and eradication purposes worldwide. Forbidden in Australia.
- Liquid chlorine is not cost-effective.

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

BIOSECURITY SYSTEMS

- No adequate biosecure structures.
- Inadequate or non-existent biosecurity protocols.
- Lack of biosecurity training for operators and decision-makers (industry and government).

STATUS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

REGULATIONS TO PROTECT THE AUSTRALIAN PRAWN FARMING INDUSTRY FROM THE INTRODUCTION OF NON-ENDEMIC PATHOGENS OF COMMERCIAL IMPORTANCE

- ❑ Importation of raw crustaceans from prawn farming countries = introduction of dangerous non-endemic pathogens into Australia = high biosecurity risk.

WHAT HAS BEEN ACHIEVED SO FAR?

ACHIEVEMENTS OF THE AUSTRALIAN PRAWN FARMING INDUSTRY

Since first WSSV in Australia in November 2016:

- ❑ March 2017: First biosecurity workshop and risk assessment.
- ❑ Site biosecurity risk assessments concluded into practical recommendations.
- ❑ Some level of implementation underway by some operators.
- ❑ Industry Biosecurity Standards drafted; ongoing approval process.
- ❑ Generic Industry Biosecurity Manual drafted (tool kit).

WHAT WILL IT TAKE TO MAKE THE AUSTRALIAN PRAWN FARMING INDUSTRY SUSTAINABLE IN THE PRESENCE OF DISEASES?

MAKING THE AUSTRALIAN PRAWN FARMING INDUSTRY BIOSECURE

- ❑ Shift of mind-set from “If” to “When”.
- ❑ Implementation of Industry Biosecurity Standards.
- ❑ Prioritized risk management approach.
- ❑ Investment in infrastructure, tools and biosecurity training.
- ❑ Adequate industry support from federal and local government.

Questions?