

Economic Development,
Jobs, Transport
and Resources

Quarantine requirements: Australia

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Australia's Biosecurity Continuum

Australia is an Island:

- Natural protection
- No shared borders

Strong quarantine system:

- Pre-border
 - Accredited sources
 - Accredited diagnostic laboratories
- Border
 - Post entry quarantine
 - Border inspections
- Post-border
 - Interstate control of movement
 - Surveillance
 - Certification



Australian plant imports

Tropical and temperate
Worldwide

- Whole plants (rarely)
- Tissue culture (e.g. strawberry)
- Budwood (e.g. Prunus, pome, grapevine)
- Bulbs (ca. 1 million/ year)
- Seed (millions/year)

- Conditions: bicon.agriculture.com.au

Obligations

Appropriate Level of Protection (ALOP)

Under the Sanitary and Phytosanitary Measures (SPS) Agreement, World Trade Organization (WTO) members are entitled to maintain a level of protection they consider appropriate to protect life or health within their territory.

Risk management measures must not be more trade-restrictive than required to achieve ALOP.

Australia's ALOP

Australia's ALOP is expressed as providing a high level of sanitary and phytosanitary protection aimed at reducing risk to a very low level, but not to zero.

<http://www.agriculture.gov.au/biosecurity/risk-analysis/conducting/appropriate-level-of-protection>

Quarantine pests

Exotic

- Known not to occur
- Not known to occur

Present

- Quarantine regulated
- Regulated
- Unregulated

Assessing risk

Industry biosecurity plans

- High priority pest lists
- Quarantine pests
- Regulated pests

Pest risk analysis

- Regulators, industry, experts
- Rank pest
 - Entry
 - Establishment
 - Spread
 - Impact

May inform quarantine testing

Planthealthaustralia.com.au

Quarantine testing

Time

Post entry quarantine:

- At least two seasons of testing (up to 24 months) for some crops:
 - Grape
 - Citrus
 - Prunus
 - Pome
 - Berry fruits

- Time in PEQ affected by
 - Arrival date
 - Accredited sources

Border:

- Immediate
 - Direct testing of some botanical seed
 - Visual screen

Diagnostics

Visual observation
 Biological indexing
 PCR
 ELISA
 Electron microscopy
 Microscopy
 Culturing

Strong desire to move NGS for viruses & viroids

- Reduced time
- Less tests
- Move away from biological indexing

Barrero et al 2017 BMC Bioinformatics

Diagnosis of an incursion

Australia experiences incursions and detections of exotic pests every year

Diagnosis:

- Subcommittee plant health diagnostic
 - Prioritize and support development of National Diagnostic Protocols for high priority pests (HPP)
- IPPC/EPPO protocols
- **Not all incursions/detections of exotic pests are HPPs**
- Detections/diagnosis
 - Diagnostic labs
 - Research projects - NGS

Incursion management

Eradicate, contain or management?

Legal obligation to notify the detection of an exotic or regulated pest

Consultative committee on emergency plant pests

- Assess risk – is it an emergency plant pest?
 - Distribution, impact, likely time and mode of introduction
 - Feasibility of eradication?
 - Cost/ benefit of eradication?

Transition to management:

- Not eradicable but restricted distribution
 - Restricted movement between states
 - If a single state retains a notifiable status it may retain quarantine status
- Present
 - Industry management

Biology is critical

Certification

Aim

- High health plants
 - Mainly viruses
- Trueness to type
- Not a regulatory requirement for any crop
- Australia is free of some significant diseases
 - complacency

Active programs

- Almonds
- Citrus
- Grapevine
- Pome fruit
- Potato
- Strawberry

- Some fruit tree/small fruit nurseries actively test and treat for viruses

Challenges

Increasing number of newly described viruses and phytoplasmas

- Many without biology

Taxonomy is critical:

- Reclassification
- What is a strain?
- Phytoplasma subgroups

Need biology, incidence and distribution to inform regulatory decisions

- PEQ/border testing
- Incursion response
- Importance to certification

Accurate diagnostics

Thank you

