This presentation will outline:

- Main insect pests likely to be encountered when inspecting shipping containers
- Pests of Quarantine concern
- Timber pests to be aware of
- Summary.
Main Insect Pests Likely to be Encountered

MOTHS

- Vary in size
- Encounter eggs, caterpillars, pupae & adults
- Caterpillars cause feeding damage
- Adults & pupae don’t feed on stored products, but degrade product quality.
Main Insect Pests Likely to be Encountered

PSOCIDS
- Small insects
- Large heads, some species winged
- Feed on particulate matter, often find on residues from previous cargoes.
Main Insect Pests Likely to be Encountered

BEETLES

- Small to large
- Encounter adults & larvae
- Many pests of plants & plant products.
Main Insect Pests Likely to be Encountered

BUGS

• Small to large insects
• Variable in shape & colour
• Immature stages resemble adults
• Many are strong fliers & have pierce-sucking mouthparts.
Main Insect Pests Likely to be Encountered

MITES (not insects – related to spiders)

- Very small, 8 legged tick-like animals
- Many are serious pests of plants
- Variable in shape & colour.
**KHAPRA BEETLE**

- World’s most destructive pest of stored grain & vegetable products
- Larvae are hairy & reach up to 6mm long
- Larvae cause damage via feeding & contaminate product with cast skins
- Cast skins very distinctive.
Pests of Quarantine Concern

GIANT AFRICAN SNAIL (GAS)
- Large tropical snails, grow up to 20cm (shells)
- Attack more than 500 spp of plants, incl. ornamentals, vegetable & legumes
- Find snails &/or eggs inside or outside containers

GOLDEN APPLE SNAIL
- Indigenous to Sth America, now established in most of SE Asia & PNG.
Pests of Quarantine Concern

TERMITES

• Commonly known as white ants, but are in fact not related to ants
• Damage timber
• 3 types – Subterranean
  - Drywood
  - Dampwood
• Social insects, have castes i.e. workers, soldiers, queens & kings
• Pale bodied, head maybe sclerotised
• Termites very cryptic - more likely to encounter frass &/or damage.
Be Aware of these Timber Pests

- Australia’s timber pests mostly attack unseasoned timbers (except lyctids & termites)

- Many exotic seasoned timber pests, including:
  - Bostrichid beetles
  - European house borer
  - Asian longhorn beetle
  - Carpenter ant.
Pests of Quarantine Concern

ASIAN GYPSY MOTH

- Severe forestry pest, attacks more than 600 spp. of trees
- Caterpillars capable of defoliating trees overnight
- Found throughout Nth America, Europe & Asia
- AGM introduced into Nth America from Russian ships
- Means of introduction is by egg masses or newly emerged larvae which balloon on silken threads
- Adult females attracted to wharf/ship lights lay eggs on all types of surfaces.
Pests of Quarantine Concern

**JAPANESE/WHITE SPOTTED TUSSOCK MOTH**

- Belongs to the same family as Asian Gypsy Moth
- Found in Japan, Korea, Taiwan, China & Russian Far East
- Attacks trees of apples, pears, plums, willow, maples & oak
- Studies suggest NZ *Pinus* sp. also are at risk
- Like the Asian Gypsy Moth eggs can be deposited on cars and other exposed cargos from Japan, Taiwan, China & Russia.
Inspecting Containers for Insects

Pay special attention to:

• Rubber seals around doors & loading hatches
• Joints & junctions of walls, floor & roof
• Floors, esp. wooden planks as residues &/or insects collect
• Bulkheads
• Tops of doors
• Behind wall panels/liners
• Ledges & loose supports.
If you find insects of Quarantine Concern...

• Contact AQIS immediately.

• If an egg mass is found, it is critical that quarantine are notified ASAP to prevent larvae hatching &/or dispersing.

• Required to:
  
  ➢ supervise the removal & treatment of egg masses, insects, residues
  
  ➢ organise treatment or cleaning
  
  ➢ re-inspect the container
• The most likely pests you will find are moths, psocids, beetles, bugs & mites

• The pests of quarantine concern are:
  ➢ Khapra Beetle
  ➢ Giant African Snail
  ➢ Golden Apple Snail
  ➢ Termites
  ➢ Other borers (eg. auger & longicorn beetles)
  ➢ Asian Gypsy Moth
  ➢ Japanese Tussock Moth

• Contact AQIS immediately of you detect any of these pests.
Acknowledgments
Operational Science Program
DAFF