RISK BACKGROUND

Fresh mangosteen for human consumption

Overview

(Image: Dinesh Kumar Radhakrishnan, (2013), *Mangosteen* https://flic.kr/p/gwc3jd (CC BY-NC-ND 2.0))

Fresh mangosteens (*Garcinia mangostana*) for human consumption do not require an import permit but must be:

- sourced from Thailand or Indonesia
- subject to pre-export inspection by the national plant protection organisation of the exporting country
- fumigated prior to shipment
- accompanied by an original phytosanitary certificate
- securely packaged (i.e. insect proof) and labelled as per import requirements.
- inspected on-arrival.

The department has not developed import conditions for countries other than Thailand or Indonesia.

Importers and department staff should ensure that the BICON conditions are met and that goods are free from biosecurity risks, as well as the key risks described below.

Key risks

Arthropod pests can be commonly found on imported mangosteens. These risks are mitigated by the use of a systems approach to reduce pest loads prior to export (e.g. cleaning of fruit and under sepals the calyx), phytosanitary inspection and certification, mandatory pre-shipment fumigation and on-arrival inspection. The following is a list of the main arthropod pests that may be found on mangosteens from Thailand and Indonesia:

Ants

Although ants are not direct plant pests, they are attracted to the honeydew that is produced by sap-sucking hemipterans such as mealybugs and scales that feed on the plant. Several ant species are known to be invasive and are actionable for Australia, including the yellow crazy ant (*Anoplolepis gracilipes*) and black ants belonging to *Dolichoderus* sp. and *Technomyrmex* sp.

Mealybugs

Mangosteens are associated with several mealybug species, including the grey pineapple mealybug (*Dysmicoccus neobrevipes*), Annona mealybug (*Dysmicoccus lepelleyi*), cocoa mealybug (*Exallomochlus hispidus*) , citrus mealybug (Hordeolicoccus heterotrichus), *Paraputo odontomachi*, coffee mealybug (*Planococcus lilacinus*), Pacific mealybug (*Planococcus minor*), orange-coloured mealybug (*Pseudococcus aurantiacus*), aerial root mealybug (*Pseudococcus baliteus*), cryptic mealybug (*Pseudococcus cryptus*) and Philippine mango mealybug (*Rastrococcus spinosus*).

Mealybugs feed on stems and leaves of fruit trees and ornamentals. They may lower fruit quality by producing wax or sticky honeydew upon which black sooty mould grows, and may also lay eggs in the calyx end of the fruit.

Fruit flies

Economically important fruit flies such as the Carambola fruit fly (*Bactrorcera carambolae*) and oriental fruit fly (*B. dorsalis*) are pests of concern for mangosteen fruit from Indonesia and Thailand. Fruit flies are highly invasive and

have a large host range and tolerance for various habitats, and are considered to be national priority plant pests for Australia. Australia's import requirements only permits undamaged mangosteens at a specific maturity level; these fruits are considered to be conditional non-hosts due to the inability of female adults to oviposit through the fruit skin.

Other pathway risks

In addition to the pests described above, fresh mangosteen for human consumption may harbour a range of other live insects, such as mites, weevils (*Curculio* sp.) and scales. Like all horticultural produce, imported mangosteen consignments may also contain diseased material and contaminants such as weed seeds, soil, hitchhiker pests, trash and other non-permitted plant parts.