Australian Government
Department of Agriculture and Water Resources

14 December 2017

ANNOUNCEMENT INFORMATION PAPER – COMMENCEMENT OF A REVIEW OF BIOSECURITY IMPORT REQUIREMENTS FOR FRESH DRAGON FRUIT FROM INDONESIA

The commencement of this review of biosecurity import requirements is in response to a request for market access for fresh dragon fruit (Genus *Hylocereus*) from Indonesia into Australia.

There are two main types of risk analyses used by the department:

- a Biosecurity Import Risk Analysis (BIRA) which is conducted through a regulated process provided for in the *Biosecurity Act 2015* and the *Biosecurity Regulation 2016*, and
- a non-regulated risk analysis, such as a review of biosecurity import requirements.

Australia has an existing import policy for fresh dragon fruit from Vietnam**.** A preliminary assessment of the pests associated with fresh dragon fruit from Indonesia has identified that the potential pests of quarantine concern (fruit flies and mealybugs) are the same, or of the same pest groups, as those pests associated with fresh dragon fruit from Vietnam. Given there are no new pest groups identified for Indonesian dragon fruit, and the review of biosecurity import requirements for the importation of fresh dragon fruit from Vietnam was recently finalised on 12 January 2017, this risk analysis will be based on the policy for dragon fruit from Vietnam and the measures proposed will be the same as those for Vietnam.

Based on this outcome, this risk analysis is being conducted as a review of biosecurity import requirements (a non-regulated risk analysis), which is consistent with the Biosecurity Import Risk Analysis Guidelines 2016.

Dragon fruit

Dragon fruit, also known as Pitahaya or Pitaya, belongs to the cactus family. The fruit is oval in shape with small spines or leaf-like scales depending on the variety. The fruit can have red skin with red, white, or purple flesh, yellow skin with white flesh, or combinations of other colours. Dragon fruit originates from Mexico, but is today widely distributed over tropical and subtropical regions of the world. The robustness of the plant enables it to grow under different ecological conditions. As a commercial crop, dragon fruit has increased in popularity over the last 15 years across Asia. In Indonesia, dragon fruit is considered a new commercially cultivated fruit, which has become increasingly popular over the last five years. The edible part of the fruit is the inner flesh, which has a texture similar to melon with numerous small soft seeds distributed throughout the flesh. Fruit pulp represents upwards of about 80 per cent of the mature fruit weight.

Dragon fruit industry in Indonesia

Production of dragon fruit in Indonesia mainly occurs on the islands of Bali, Borneo, Java, Sulawesi and Sumatra. Further details of the provinces where dragon fruit are grown in Indonesia is presented in Table 1.

Table 1: Major Indonesian provinces where dragon fruit is grown

Island	Province
Borneo	Central Kalimantan
	East Kalimantan
	South Kalimantan
	West Kalimantan
Java	Banten
	Central Java
	Special Region of Yogyakarta (Daerah Istimewa Yogyakarta (DIY))
	East Java
	West Java
Sumatra	Bengkulu
	Jambi
	Lampung
	South Sumatra
	West Sumatra
Sulawesi	South East Sulawesi
Bali	Bali
Multiple islands within an individual province	East Nusa Tenggara
	West Nusa Tenggara

Dragon fruit is produced throughout the year in Indonesia, however, the peak season is November to March. The main species grown are the red-skinned with red flesh *Hylocereus monacanthus* and red-skinned with purple flesh *Hylocereus costaricensis* species.

In 2013, Indonesia's fresh dragon fruit yield was 23 tonnes/hectare, which is higher than most other fruit crops. In 2015, Indonesia exported 55 tonnes of fresh dragon fruit. The main export markets are Vietnam, Singapore, and Hong Kong.

Australian dragon fruit imports

The conditions for the import of fresh dragon fruit from Vietnam into Australia were finalised on 24 August 2017 and imports began on 21 September 2017. Australia also has established import conditions for dragon fruit seed (for sowing) and nursery stock.

Dragon fruit industry in Australia

In Australia, fresh dragon fruit are produced in the Northern Territory, Queensland, Western Australia and New South Wales, with the Northern Territory being the largest producer. The Australian dragon fruit industry is currently small and focussed on domestic fresh fruit supply. According to the results of a survey reported in 2012, the industry was worth around $2.25 million, with total production of 750 tonnes of fresh dragon fruit.

The types of fresh dragon fruit grown in Australia include red-skinned with white flesh *Hylocereus undatus,* red-skinned with red flesh *Hylocereus monacanthus*, hybrids of the two, as well as the yellow skin with white flesh species *Hylocereus megalanthus*.

Trade between Australia and Indonesia

Indonesia is Australia's fourth largest market for agriculture, fisheries and forestry products (after China, Japan and the United States of America). In 2016-17, Australia exported $3.14 billion worth of these products to Indonesia, while importing products valued at $812 million.

In 2016-17, the key agricultural exports from Australia to Indonesia were wheat, worth $1,263 million, and live cattle, worth $619.8 million. Horticultural exports to Indonesia were valued at $104 million, with the top export being table grapes valued at $57 million.

In 2016-17, the key agricultural imports from Indonesia were sawnwood and plywood worth $216.1 million, paper and paper products worth $117.1 million and cocoa worth $58.9 million. The top horticultural import was cashew nuts worth $5.99 million.

Preliminary assessment of Indonesian dragon fruit

A preliminary assessment has identified that the pests potentially associated with fresh dragon fruit from Indonesia do not pose different biosecurity risks to those associated with fresh dragon fruit from Vietnam. The review of biosecurity import requirements for the importation of fresh dragon fruit from Vietnam was finalised on 12 January 2017.

A preliminary assessment of the pests of fresh dragon fruit in Indonesia indicates that the potential pests of quarantine concern are two species of fruit flies (*Bactrocera cucurbitae* and *B. dorsalis*) and five species of mealybug (*Dysmicoccus neobrevipes*, *Paracoccus marginatus*, *Planococcus lilacinus*, *Planococcus minor* and *Pseudococcus jackbeardsleyi*). These species were also identified to be associated with Vietnamese dragon fruit with the exception of *Paracoccus marginatus* (papaya mealybug), which was identified as a quarantine pest associated with fresh dragon fruit from Indonesia but is not present in Vietnam (see Table 2).

Paracoccus marginatus has previously been assessed in the risk analysis for fresh mango fruit from Indonesia, Thailand and Vietnam, and appropriate risk management measures are established for this pest. Additionally, *P. marginatus* has a very similar pest profile to the mealybug species identified as being of quarantine concern for Vietnamese dragon fruit. For these reasons, the likelihood and/or consequences of entry, establishment and spread of *P. marginatus* do not differ from the mealybug species previously assessed on the dragon fruit pathway.

No pathogen species are currently identified as being of quarantine concern.

The quarantine pests potentially associated with fresh dragon fruit from Indonesia will not require different risk management measures to those required for fresh dragon fruit from Vietnam.

Table 2: Quarantine pests for dragon fruit from Indonesia and Vietnam

Pest – Scientific	Pest - Common	Present in Indonesia	Present in Vietnam
Diptera			
Bactrocera correcta	Guava fruit fly	No	Yes
Bactrocera cucurbitae	Melon fly	Yes	Yes
Bactrocera dorsalis	Oriental fruit fly	Yes	Yes
Hemiptera			
Dysmicoccus neobrevipes	Grey pineapple mealybug	Yes	Yes
*Paracoccus marginatus**	Papaya mealybug	Yes	No
Planococcus lilacinus	Coffee mealybug	Yes	Yes
Planococcus minor	Pacific mealybug	Yes	Yes
Pseudococcus jackbeardsleyi	Jack Beardsley mealybug	Yes	Yes

* The same risk mitigation measures for Coffee, Pacific and Jack Beardsley mealybugs will apply to papaya mealybug.

Next steps

A draft report of this review of biosecurity import requirements will be published on the department's website, www.agriculture.gov.au, in January 2018. Stakeholders will have an opportunity to submit comments on the draft report for a period of 60 days.

All comments will be assessed and, where relevant, amendments will be incorporated into the final report.

The recommendations in the final report will reflect the completion of the risk analysis for fresh dragon fruit from Indonesia. The recommended measures will have been assessed as scientifically sound and appropriate to manage any potential risks to Australia's biosecurity presented by the import of fresh dragon fruit from Indonesia. However, a number of other steps will need to be completed before imports can commence:

- The department will verify that Indonesia can implement the risk management measures recommended in the report.
- Import conditions will be published on the department's Biosecurity Import Conditions System (BICON). Interested stakeholders can register in the BICON system to receive an alert when the case is updated.
- Import permits would need to be issued for trade to commence. A decision to import fresh dragon fruit from Indonesia into Australia is a commercial decision between an importer in Australia and a supplier in Indonesia who can meet the import conditions.

If you would like to know more about this review or the risk analysis review process please email plantstakeholders@agriculture.gov.au or phone +61 2 6272 5094.