

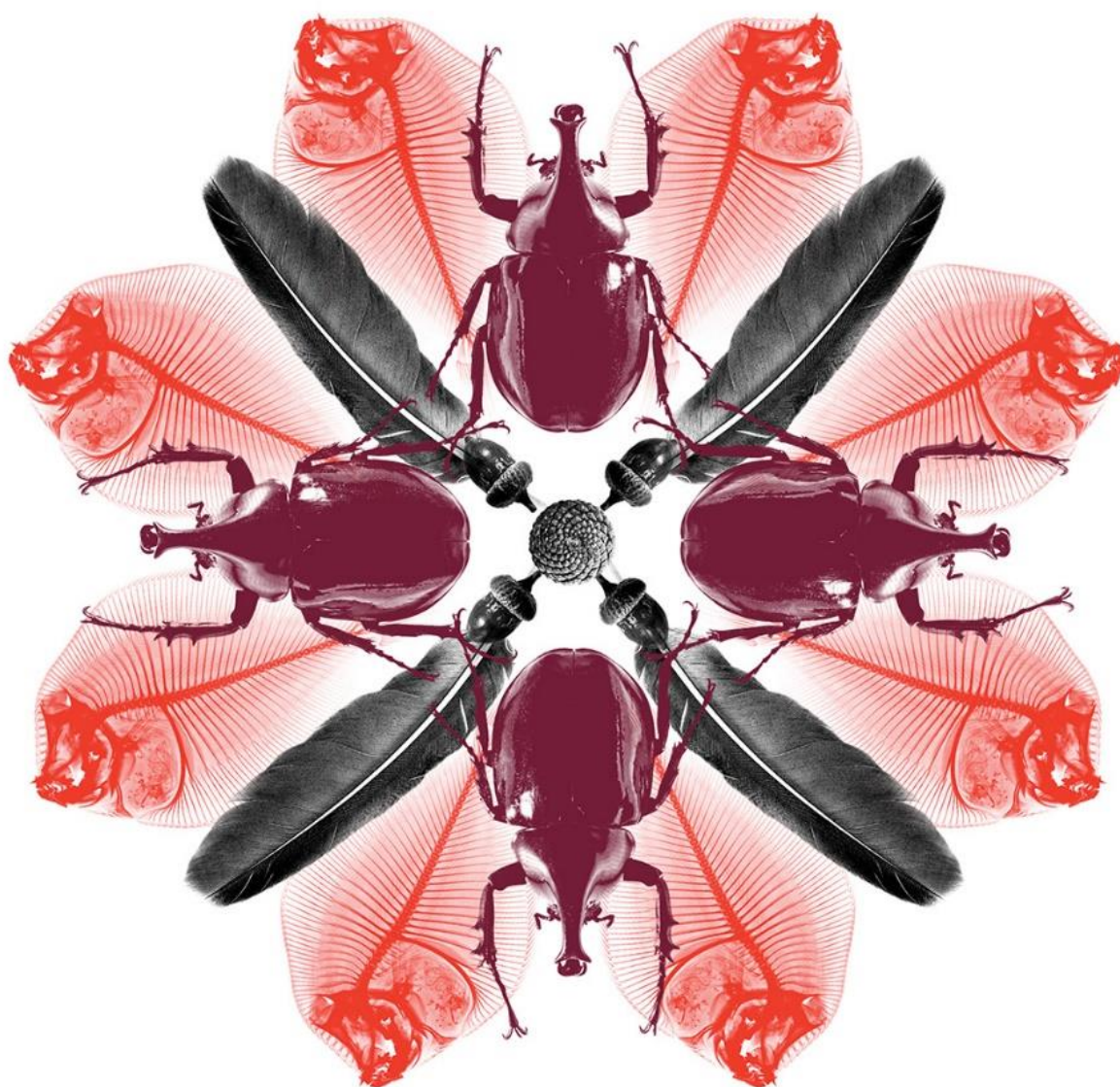


Australian Government  
Department of Agriculture  
and Water Resources

# Final report on the conditions (phytosanitary measures) for the importation of poppy (*Papaver somniferum*) straw and pellets from Hungary, Portugal and Turkey for processing

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# **Final report on the conditions (phytosanitary measures) for the importation of poppy (*Papaver somniferum*) straw and pellets from Hungary, Portugal and Turkey for processing**

## **1. Introduction**

The Australian Government Department of Agriculture and Water Resources received a request to import poppy straw into Australia for extraction of therapeutic materials. This report provides the outcome of an assessment of the plant biosecurity risks associated with the importation of import poppy (*Papaver somniferum*) straw (dried deseeded capsules with 10-20cm of stem) from Hungary, Portugal and Turkey. Several quarantine pests were identified as potentially being on this pathway. The conditions (phytosanitary measures) set out in section 6 provide two treatment options that would address the plant biosecurity risks associated with poppy straw and pellets from countries that do not have the stored product quarantine pest *Trogoderma granarium* (Khapra beetle). Turkey is a country known to have *Trogoderma granarium* (Khapra beetle). Therefore material sourced from Turkey will require mandatory Methyl Bromide fumigation, in addition to those conditions (phytosanitary measures) outlined in subsections 6.1 and 6.2.

Two options for the importation of poppy straw have been developed. The first option is based on offshore processing to address plant biosecurity risks, combined with verification inspection on arrival prior to release from biosecurity control. The second option is based on processing of straw on arrival in Australia under Approved Arrangements with a combination of treatments and operational security to address the plant biosecurity risks. Specific details of these options are provided in section 6. Both options are consistent with Australia's existing policy framework for managing plant biosecurity risks in imported plants and plant products.

## **2. Approval by other agencies**

The importation of poppy straw requires approval from a range of regulatory agencies. This report considers only the plant biosecurity issues and prospective importers are advised to contact other agencies to ensure that the necessary approvals are obtained prior to entering into any contractual arrangements to import. Such agencies include Office of Drug Control (Department of Health), the Department of Immigration and Border Protection, Australian Pesticides and Veterinary Medicines Authority and state/territory departments of agriculture.

A draft set of conditions (phytosanitary measures) for the importation of poppy straw for processing from Portugal, Hungary and Turkey, was released on 31 March 2016 (Biosecurity Advice 2016-08). Comments received have been taken into consideration in developing this report.

### **3. Definition and characteristics of poppy straw and pellets**

There is some variation as to the meaning of the term poppy straw. Internationally, the term "poppy straw", refers to either the whole dried plants of *Papaver somniferum* L. (opium poppy plants) or to whatever part is used in extracting alkaloids (UNODC 1953). Generally poppy straw comprises dried material of mature poppy plants with a residual component of seed that remains with the material through to processing. The straw is harvested mechanically or by hand. In this report the term poppy straw is used to indicate dried poppy capsules and some stem (10-20 cm), with most seeds removed.

Poppy straw is often crushed to varying degrees and then compacted or pelletised for transport. There is considerable variation in the processes used to form the pellets as well as density of the final pellet. The variations include the extent of grinding, the temperatures used and the degree of compaction in the formation of pellets. The minimum acceptable processes for pelletisation to be accepted as a phytosanitary treatment are set out in section 6.

### **4. Uses of poppy straw**

Poppy straw is used for the manufacture of controlled and non-controlled alkaloid-based medicinal compounds for pain relief and treatment of various conditions (e.g. Alzheimer's, ADHD, anti-arthritic and antitussive medicines etc.) (Maia 2013). It is grown in several countries around the world (e.g. Australia, France, Hungary, Portugal, Slovakia, Spain, the Republic of Macedonia, Turkey, and the United Kingdom).

#### **4.1. Australian production and use**

Poppy straw is a valuable commodity and has a history of being grown in Australia. Local production is primarily in the state of Tasmania with production commencing more recently in some other states and territories. Poppy straw grown in Australia is used within Australia as well as being exported for manufacture of therapeutic goods. The growing, manufacture and export is heavily controlled by national, sub-national and international regulations. The state of Tasmania, in Australia, is the world's largest producer of pharmaceutical opium alkaloids, supplying more than 45 per cent of the world's opiates (Cotching 2011). Until recently, it was the only Australian state growing this crop commercially (Murray 2014). However, this changed in 2013 when Victoria introduced legislation allowing for commercial growing of poppies (*Papaver somniferum*) for alkaloid and therapeutic material extraction. Additionally the Northern Territory and South Australia have legislation permitting cultivation since 2014 and 2015 respectively (Northern Territory Government 2014, Ross & Aroozoo 2014, South Australian Government 2016). The Northern Territory had its first commercial crop in 2015, and it is expected that South Australia will harvest its first commercial crop in 2017.

### **5. Pests**

In developing this report, an assessment was made of the pests that are associated with poppy straw from Hungary, Portugal and Turkey prior to offshore processing. The assessment considered the production pathway for poppy straw crop. For each of these

pests an assessment of: status in Australia (presence/absence/under official control); the potential of entering, establishing and spreading, and the potential for economic consequences on the poppy straw pathway, was undertaken to determine their status as quarantine or non-quarantine pests. Note that stored product pests have not been specifically included in the list below; however, they are addressed in the processing, treatment and inspection procedures set out in section 6. This approach for dealing with stored product pests and other contaminating pests of quarantine concern is consistent with current procedures and practices for managing these pests.

The following pests are considered to be associated with the poppy straw pathway from Hungary, Portugal and Turkey (both quarantine and non-quarantine pests):

**Arthropods:** *Ethelcus denticulatus* (Schrank, 1781); *Neoglocianus albovittatus* (Germar, 1824); *Neoglocianus maculaalba* (Herbst, 1795); *Clinodiplosis cilicrus* (Kieffer, 1889); *Dasineura papaveris* (Winertz, 1853); *Iraella luteipes* (Thompson, 1877)

**Bacteria:** *Pectobacterium carotovorum* subsp. *carotovorum* (Jones 1901) Hauben *et al.* 1999 emend. Gardan *et al.* 2003; *Xanthomonas campestris* pv. *papavericola* (Pammel 1895) Dowson 1939.

**Viruses:** *Bean yellow mosaic virus* (BYMV).

**Fungi:** *Macrophomina phaseolina* (Tassi) Goid.; *Thanatephorus cucumeris* (A.B. Frank) Donk; *Cladosporium cladosporioides* (Fresen.) G.A. de Vries; *Cladosporium herbarum* (Pers.) Link.; *Cladosporium macrocarpum* Preuss.; *Entyloma fuscum* J. Schröt.; *Erysiphe macleayae* R.Y. Zheng & G.Q. Chen; *Erysiphe polygoni* DC.; *Sclerotinia sclerotiorum* (Lib.) de Bary; *Fusarium incarnatum* (Desm.) Sacc.; *Fusarium oxysporum* species complex; *Fusarium solani* (Mart.) Sacc.; *Gibberella acuminata* Wollenw.; *Trichothecium roseum* (Pers.) Link; *Globisporangium mamillatum* (Meurs) Uzuhashi, Tojo & Kakish.; *Globisporangium ultimum* (Trow) Uzuhashi, Tojo & Kakish.; *Peronospora arborescens* (Berk.) de Bary; *Peronospora meconopsidis* Mayor; *Peronospora somniferi* Voglmayr; *Pythium aphanidermatum* (Edson) Fitzp.; *Pythium dissotocum* Drechsler; *Alternaria alternata* (Fr.) Keissl.; *Alternaria brassicae* (Berk.) Sacc.; *Alternaria papavericola* Woudenb. & Crous; *Alternaria papaveris* (Bres.) M.B. Ellis; *Alternaria penicillata* (Corda) Woudenb. & Crous; *Bipolaris sorokiniana* (Sacc.) Shoemaker; *Stemphylium vesicarium* (Wallr.) E.G. Simmons.

### 5.1. Quarantine pests

The following are the subset of those listed above that are considered to be quarantine pests (FAO 2016) on the pathway of poppy straw from Hungary, Portugal and Turkey.

Five arthropod pests:

- *Ethelcus denticulatus* (weevil)
- *Neoglocianus albovittatus* (weevil)
- *Neoglocianus maculaalba* (weevil)
- *Dasineura papaveris* (poppy capsule midge)
- *Iraella luteipes* (gall and stem wasp);

One bacterium:

- *Xanthomonas campestris* pv. *papavericola* (bacterial blight);

One virus:

- *Bean yellow mosaic virus*, and

Three fungi:

- *Alternaria papavericola* (poppy fire)
- *Alternaria papaveris* (leaf spot)
- *Erysiphe macleayae* (powdery mildew).

## **6. Import conditions (phytosanitary measures) for poppy (*Papaver somniferum*) straw and pellets**

Poppy straw imported from Turkey, which is a country that has the stored product quarantine pest *Trogoderma granarium* (Khapra beetle), will require a mandatory fumigation with Methyl Bromide at 80 grams per cubic metre at 21 degrees Celsius for 48 hours with a minimum concentration of 24 grams per cubic metre after 24 hours at normal atmospheric pressure. A treatment certificate attesting to the treatment, or an additional declaration of completion of the treatment on the phytosanitary certificate must be provided as a condition of import.

Imports from countries that do not have *Trogoderma granarium* (Khapra beetle) require an additional declaration of country freedom on the phytosanitary certificate.

Other stored product pests and contaminating pests of quarantine concern are managed through the application of the phytosanitary measures outlined in 6.1 and 6.2.

### **6.1. Option 1 – Offshore processing or treatment**

Poppy straw from Hungary, Portugal and Turkey that is treated offshore to address the plant biosecurity risks presented by the quarantine pests in section 5.1 can be imported under the authority of the Goods Determination of the Biosecurity Act 2015 and do not require an import permit.

The following treatments or manufacturing processes (phytosanitary measures) are approved for offshore processing of poppy straw in the source countries.

- **Hammer milling, combined with steam pelletisation:** Minimum acceptable conditions are hammer milling of the poppy straw followed by steam pelletisation attaining a minimum chamber temperature of 85 degrees Celsius in the pelleting process.
- **Heat treatment:** There are two options for heat treatment of poppy straw: a) 85 degrees Celsius core temperature for 48 hours, or b) 95 degrees Celsius core temperature for 24 hours.
- **Irradiation:** Irradiation of poppy straw at 25 kilogray at an approved facility.

All consignments of processed poppy straw are to be bagged in clean, new bags and containerised in clean FCL containers. All bags to have identifying marks or labels, enabling reconciliation with the phytosanitary certificate.

Phytosanitary certificates require the following additional declarations:

- (i) “Khapra beetle, *Trogoderma granarium* is known not to occur in (*Insert country of origin*)”;  
OR  
“The poppy straw in this consignment has been treated with Methyl Bromide at 80 grams per cubic metre at 21 degrees Celsius for 48 hours with a minimum concentration of 24 grams per cubic metre after 24 hours at normal atmospheric pressure”.
- (ii) “The poppy straw in this consignment has been treated by (*insert relevant treatment listed above*). Following treatment, all processed poppy straw has been stored in a manner to prevent any cross infestation or contamination”.

On arrival in Australia, all containers are to be directed to an inspection facility operating under Approved Arrangements with the Department of Agriculture and Water Resources.

All consignments are subject to a verification inspection by biosecurity officers to confirm identity of the contents, compliance with the documentary requirements for import, and freedom from stored product pests or other contaminating pests or biosecurity risk material.

At the conclusion of the verification and inspection processes, and subject to compliance with the above conditions (phytosanitary measures), the goods consignment may be released from biosecurity control.

The Department of Agriculture and Water Resources reserves the right to place a hold on the consignment pending any testing or analysis of the processed poppy straw to confirm compliance with Australia’s biosecurity requirements.

## **6.2. Option 2. On arrival treatment**

Consignments of unprocessed poppy straw require a biosecurity import permit issued by the Department of Agriculture and Water Resources.

Issuance of permits for unprocessed poppy straw will be subject to the importer providing details of an Approved Arrangements site for the application of the nominated treatment in the following list:

- **Heat treatment:** There are two options for heat treatment of poppy straw: a) 85 degrees Celsius core temperature for 48 hours, or b) 95 degrees Celsius core temperature for 24 hours, or
- **Irradiation:** Irradiation of poppy straw at 25 kilogray.

All consignments of unprocessed poppy straw are to be bagged in clean, new bags and containerised in clean FCL containers. All bags to have identifying marks or labels, enabling reconciliation with the phytosanitary certificate.

Phytosanitary certificates require the following additional declarations:

- (i) “Khapra beetle, *Trogoderma granarium* is known not to occur in (*Insert country of origin*)”;  
OR  
“The poppy straw in this consignment has been treated with Methyl Bromide at 80 grams per cubic metre at 21 degrees Celsius for 48 hours with a minimum concentration of 24 grams per cubic metre after 24 hours at normal atmospheric pressure”.

On arrival in Australia, all containers are to be directed to an inspection and treatment at a Department of Agriculture and Water Resources Approved Arrangements site.

All consignments are subject to a verification inspection by biosecurity officers to confirm identity of the contents, compliance with the documentary requirements for import, and freedom from stored product pests or other contaminating pests or biosecurity risk material.

Unprocessed poppy straw is to be stored securely prior to treatment.

The Department of Agriculture and Water Resources reserves the right to place a hold on the consignment pending any testing or analysis of the processed poppy straw to confirm compliance with Australia’s biosecurity requirements.

Subject to compliance with the above conditions (phytosanitary measures), the consignment may be released from biosecurity control.

## **7. Conclusion**

Prospective importers can submit applications to import poppy (*Papaver somniferum*) straw where they can meet the conditions outlined in this report. An application can be made using the Biosecurity Import Conditions system (BICON) through the department’s website.

The department may audit the phytosanitary procedures when trade has commenced and may suspend imports if conditions (phytosanitary measures) are not met. The department reserves the right to review and amend the import policy if circumstances change and within 12 months.

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