Alternatives to dimethoate to manage the export of fruit fly host commodities from Australia to New Zealand

RISK MANAGEMENT PROPOSAL FOR PUBLIC CONSULTATION

July 2012
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Purpose

1. The purpose of this document is to:
   a) summarise how the DAFF proposed alternative measures can effectively manage risks;
   b) establish the feasibility, practicality of implementation of DAFF’s proposed alternative measures; and
   c) provide the basis for consultation with interested parties for amendments to the import health standard (IHS) 152.02: Importation and clearance of fresh fruit and vegetables into New Zealand.

Background

NEW ZEALAND’S CURRENT APPROACH TO FRUIT FLY RISK MANAGEMENT

2. New Zealand’s current fruit fly management system utilises a range of off-shore production, processing, and post harvest disinestation and area freedom measures, and on-shore surveillance, response and contingency planning to keep New Zealand free of economically significant fruit flies. These measures can be applied in isolation such as a stand alone treatment or in combination in a system to manage risk.

3. The Ministry for Primary Industries1 (MPI) regards this system as highly successful as there have been no fruit fly incursions into New Zealand for almost 16 years from any country. The historic incursion and recent detection in Auckland in May 2012 are not believed to have entered New Zealand via the commercial pathway covered by fresh produce import health standards.

AUSTRALIAN DIMETHOATE REVIEW

4. For the last two decades, Australian growers have used dimethoate as a pre- and post-harvest insecticide to control fruit fly for interstate trade within Australia and export to New Zealand.

5. The Australian Pesticides and Veterinary Medicines Authority is currently reviewing the use of dimethoate due to concerns about possible effects on human health. Early analysis has led to interim suspensions of some uses of dimethoate in advance of the completion of the review, which is scheduled for 5 October 2012.

COMMODITIES

6. The export season for capsicums, cucumbers, scallopinis, tomatoes and zucchinis from Australia to New Zealand begins in April and runs until our summer season can supply the domestic market. New Zealanders consume large quantities of these commodities. As such, this is a high-volume and highly valued import/export segment. Table 1 shows the volume of Australian dimethoate treated imports from 2008-2011.

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1 Formerly the Ministry of Agriculture and Forestry.
Table 1: Australian dimethoate treated imports 2008-2011 (MPI, 2012c)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Number of consignments</th>
<th>Total weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>736</td>
<td>9,528,554</td>
</tr>
<tr>
<td>Zucchini</td>
<td>1337</td>
<td>4,047,530</td>
</tr>
<tr>
<td>Capsicum</td>
<td>715</td>
<td>2,442,335</td>
</tr>
<tr>
<td>Cucumber</td>
<td>175</td>
<td>273,974</td>
</tr>
</tbody>
</table>

7. Because dimethoate can no longer be used as a post-harvest dip to manage fruit fly risks on these commodities, and the high value of the export trade, DAFF has requested MPI assess alternative measures (see section 2).

INTERNATIONAL SETTING

8. Where possible, phytosanitary measures are aligned with international standards, guidelines, and recommendations as per New Zealand’s obligations under Article 3.1 of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), WTO 1995.

9. The SPS Agreement states that phytosanitary measures must not discriminate unfairly between countries or between imported or domestically produced goods, and where there is a choice of phytosanitary measures to reduce risk to an acceptable level, WTO members must select the least trade restrictive measure.

Objective

10. MPI’s objective is to ensure biosecurity risks posed by the importation of fruit fly host commodities from Australia are managed appropriately and are consistent with New Zealand’s domestic legislation and international obligations.

Section 1: Summary of risk

11. The risks associated with removal of dimethoate use on the commodities listed in Table 1 are tephritid fruit flies.

12. There are major benefits to New Zealand growers, international market access, and the New Zealand economy to maintain country freedom from fruit flies of economic significance. A tephritid fruit fly incursion would have serious consequences for New Zealand’s horticultural industry as well as backyard fruit and vegetable growers.

13. An incursion and several detections of fruit flies in New Zealand metropolitan areas in 1995-96 were expensive to manage and resulted in some trading partners suspending horticultural exports from New Zealand for several years. The May 2012 detection of a single male Queensland fruit fly generated an increased surveillance response and suspension of movement of fresh produce within the detection area; no trading partners suspended trade with New Zealand.

14. The fruit flies of economic significance listed in IHS 152.02 Importation and clearance of fresh fruit and vegetables into New Zealand include:

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2 Zucchini includes the importation of the cultivars courgette and scallopini.
Capsicum:
- *Bactrocera aquilonis* Northern Territory fruit fly
- *Bactrocera cucumis* cucumber fruit fly
- *Bactrocera frauenfeldi* fruit fly
- *Bactrocera kraussi* fruit fly
- *Bactrocera jarvisi* Jarvis' fruit fly
- *Bactrocera neo-humeralis* lesser Queensland fruit fly
- *Bactrocera tryoni* Queensland fruit fly
- *Ceratitis capitata* Mediterranean fruit fly *

Cucumber, Scallopini and Zucchini:
- *Bactrocera cucumis* cucumber fruit fly
- *Ceratitis capitata* Mediterranean fruit fly *
- *Bactrocera tryoni* Queensland fruit fly

Tomato:
- *Bactrocera cucumis* cucumber fruit fly
- *Bactrocera neo-humeralis* lesser Queensland fruit fly
- *Bactrocera tryoni* Queensland fruit fly
- *Ceratitis capitata* Mediterranean fruit fly *

*Western Australia only.

15. Other regulated organisms associated with the commodities listed above are managed using a combination of standard commercial production practices, appropriate pest control activities or have been sourced from areas where the organisms of concern are known not to occur. Commodity import health standards and the Australia-New Zealand Bilateral Quarantine Agreement (BQA) specify the activities for managing these other regulated organisms.

INFORMATION CONSIDERED

16. MPI consulted ISPM 24: *Guidelines for the determination and recognitions of equivalence of phytosanitary measures* (IPPC, 2005b) to objectively assess DAFF’s proposed alternatives and in accordance with Article 5.7 of the SPS Agreement (WTO, 1995), where MPI is not limited to assessing only scientific evidence, MPI also considered the following relevant information and data:

17. The Australian interstate certification assurance (ICA) protocol ICA-04: *Fumigating with Methyl Bromide* (Queensland Government, 2008) are stand alone treatment rates that (see Table 2) have been used for many years for trade from mainland Australian states into Tasmania (25,000 tonnes per annum) with nil detection of fruit fly on all treated host commodities (DAFF, 2012a). Tasmania maintains fruit fly freedom by having measures in place on all domestic fruit fly host commodities from mainland Australia.

18. DAFF reviewed interstate trade data from a one-month period (January 2009) from mainland Australia into Tasmania and calculated state officials inspected approximately 15 million units of capsicums and tomatoes with nil fruit fly detections (DAFF, 2012a).

19. Trade data from a 10 year period of Australia exports to New Zealand under the dimethoate and in-field control programme export system show over 17 million units inspected with nil live or dead fruit fly detections (DAFF, 2011). This data supports the extremely low incidence of fruit flies in commercially traded commodities.

20. The preliminary findings of an area wide in-field fruit fly monitoring project over a 3 year period in commercial production sites in the Bowen growing area; 50,000 fruit fly host commodity units were sampled, incubated for pupal development, cut and inspected
Infestation levels were confirmed as extremely low to nil; production sites utilised dimethoate and other approved in-field fruit fly control chemicals.

21. The effect of the proposed measures is further considered by MPI (MPI, 2012b), assessing the risk of a ‘worst case’ fruit fly incursion scenario simulation, based on Baker et al. (1990), which New Zealand’s maximum pest level (MPL) and sampling methodology is based upon.

22. The methyl bromide efficacy required to treat the ‘worst case’ scenario has been calculated (MPI, 2012b).

Section 2: DAFF alternative proposals

23. DAFF has submitted the following two proposals to MPI for assessment as an interim measure for fruit fly host commodities, with proposal 1 as their priority. DAFF have highlighted that methyl bromide fumigation has been accepted as a stand alone treatment in both domestic and international trade.

PROPOSED MEASURE 1: METHYL BROMIDE FUMIGATION AS A STANDALONE TREATMENT

24. DAFF has requested MPI assess methyl bromide fumigation as a standalone treatment as a measure for management of economically significant fruit flies listed in Section 1, using the treatment rates in the Australian market access protocol ICA-04 (Table 2).

<table>
<thead>
<tr>
<th>Methyl bromide (g/m³)</th>
<th>Fresh temperature (°C)</th>
<th>Duration (hours)</th>
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<tr>
<td>24</td>
<td>26-31.9</td>
<td>2</td>
</tr>
<tr>
<td>32</td>
<td>21-25.9</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>15-20.9</td>
<td>2</td>
</tr>
<tr>
<td>48</td>
<td>10-14.9</td>
<td>2</td>
</tr>
</tbody>
</table>

PROPOSED MEASURE 2: METHYL BROMIDE FUMIGATION AND IN-FIELD CONTROL PROGRAMMES

25. DAFF is also proposing in-field control programmes and methyl bromide fumigation for management of economically significant fruit flies. This measure uses the registration and certification system Australia already has in place with the requirement in-field control programmes that reduce fruit fly infestation on host commodities. The methyl bromide treatment rates proposed are those of ICA-04 (Table 2).

Section 3: Discussion

26. MPI has made an assessment of the affected export pathways to determine if the proposed measures will manage risk of economically significant fruit flies equivalent to the suspended dimethoate pathway. MPI has made the following observations, interpretations and scientific judgement in our assessment of the interim measures proposed by DAFF.
METHYL BROMIDE FUMIGATION

27. Methyl bromide is an effective fumigant that has good penetration and sorption into a wide range of materials; however sensitivity of fresh produce can result in damage to skins and a reduction in shelf life. Because of this and the Montreal Protocol aimed at reducing ozone depleting gases like methyl bromide, recent fruit fly management research has focused on alternative treatments; though used historically there is limited published research for methyl bromide treatment efficacy. DAFF initially proposed a new low dose methyl bromide treatment as a dimethoate alternative; however this research has not been completed for consideration in the 2012 export season.

28. There is an extensive history of methyl bromide fumigation as a quarantine treatment for fresh produce worldwide (FAO, 1984). MPI considered the current use of methyl bromide in import health standards to manage tephritids from Australia, Pacific and USA (Appendix 4). MPI accepts that methyl bromide can be a measure to control Australian fruit flies.

29. DAFF has provided MPI with efficacy data for fumigation of capsicums against Qfly (Jessup, 1993a) at 40g/m³ for 2 hours at 17°C. MPI considers this treatment efficacious against fruit fly in capsicums. Other research conducted by Jessup for fumigation of cherries (1993b) and apples (1994) against Qfly at the same rates were also found efficacious. This research shows fumigation with methyl bromide to be effective against Qfly at rates proposed by DAFF.

30. A methyl bromide sliding scale is used worldwide to achieve insect mortality and is dependent on three major variables – concentration, duration and temperature. The treatment schedules within the sliding scale provide the basis for achieving a level of toxicity with consideration to the ambient flesh temperature of the commodity to limit degradation. The sliding scale proposed by DAFF is accepted internationally by national plant protection organisations (NPPOs), including MPI for both import (MPI, 2012a) and export pathways (MPI, 2012d); MPI accepts methyl bromide as a effective measure for economically significant fruit flies and other regulated organisms. Methyl bromide scales decrease methyl bromide by 8g/m³ with every 5°C increase in temperature. The Jessup (1993a, 1993b & 1994) treatment data sits in the middle of these scales; including the ICA 04 treatment scale.

31. Methyl bromide fumigation of tomatoes as a quarantine treatment is currently approved by the United States Department of Agriculture (USDA) against Medfly and tomato fruit fly *Rhagoletis pomonella* at 32g/m³ for 3.5 hours at 21°C and 48g/m³ for 2 hours at 21°C respectively (USDA, 2011). Additionally, DAFF has approved fumigation of capsicums against Medfly at 32g/m³ for 2 hours at 21°C from the United States of America (DAFF, 2012c).

32. These approved treatment rates, in addition to the Australia domestic interstate certification assurance methyl bromide fumigation protocols demonstrate the broad effectiveness of fumigation on capsicums and tomatoes for a range of tephritids. MPI considers the fumigation of Solanaceae commodities, such as the capsicum and tomato pathways at the rates used by Jessup (1993a) as efficacious against Qfly, given the penetration and sorption of the fumigant would not be significantly different to that of the other test fruits (Jessup, 1993b & 1994).

33. In addition to methyl bromide fumigation utilised for control on Qfly host commodities, schedules for control of cucumber fruit fly have been approved by Australia’s trading partners. Cucumbers exported to the Solomon Islands and New Caledonia from Australia undergo fumigation at 32g/m³ for 2 hours at 15-21°C against cucumber fruit fly, Vietnam has approved all treatment rates within the ICA-04 sliding scale (DAFF, 2012d).
34. There have been a number of fruit fly outbreaks in the pest free areas on mainland Australia and a single Qfly detection in Tasmania that could have been an indication of methyl bromide treatment failure. DAFF and Tasmanian government investigation found no detections of fruit fly could be traced to fruit fly host commodities treated with methyl bromide fumigation. The detections are considered more likely to be from non commercial pathways without regulation e.g. host commodities from farmers markets and home gardens (DAFF, 2012b) brought in by travellers from the mainland. This is consistent with the New Zealand experience, where passenger carried fruit is considered the pathway for the male Qfly detection in an Auckland trap in May 2012.

**IN-FIELD CONTROL PROGRAMMES**

35. MPI requires Australian growers of capsicums, cucumbers and tomatoes to comply with BQA Appendix 10 – In-field control programmes in conjunction with other BQA appendices to export these commodities to New Zealand, for the management of economically significant fruit flies.

36. Under Appendix 10 growers must apply an efficacious fruit fly insecticide at the recommended label rates a minimum of 4 weeks prior to commencement of harvest. Field monitoring and spray diaries must be kept for all activities related to registered blocks.

37. Growers have the choice of four fruit fly chemicals approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA) for use on their crops to fulfil the requirements of Appendix 10 (DAFF, 2012b). Dimethoate is one of a group of chemicals approved for control of fruit flies, in addition to fenthion, malathion and trichlorfon; dimethoate is often not the chemical of choice for many growers (DAFF, 2012b).

38. A study conducted by the Queensland Department of Employment, Economic Development, and Innovation (DEEDI) over a three-year period, monitored commercial production sites in the Bowen growing area. The study collected 50,000 fruit fly host commodity units, which were incubated for pupal development, and then cut and inspected for fruit flies. Only one infested capsicum was detected at the end of the production season. The single detection came from a production site that did not use any insecticides registered for fruit fly control. MPI considers in-field fruit fly infestation levels on production sites registered for the New Zealand market to be extremely low to nil. DEEDI have been able to provide preliminary information to DAFF in support of the efficacy for in-field control programmes (DAFF, 2012b).

39. The study included production sites that did not use dimethoate as part of their in-field control programme, with no fruit flies detected in units sampled from these sites. For example, in June to October 2007, from three production sites where trichlorfon was applied (no dimethoate), over 6000 tomatoes were sampled, and no fruit flies were detected. MPI considers the three alternative insecticides to dimethoate, as being highly effective in managing fruit flies to extremely low to nil levels.

40. The MPI (2012b) ‘worst case’ incursion modelling has utilised a published figure for in-field control level of fruit flies for citrus. MPI has assessed the DEEDI information (DAFF 2012b), the inspection information from Tasmania (DAFF 2012a) and New Zealand trade of fruit fly host commodities (MPI 2012c) and considers the level of infestation is very near zero and that the MPL utilised in the model to be very conservative for the affected commodities.

41. Note – for the registration of new insecticides to control fruit flies, before the APVMA can register a product, it must be satisfied that the product will be efficacious. Each new
product is assessed by APVMA following the provision of sufficient supporting data in the form of efficacy trials consistent with efficacy guidelines (APVMA, 2012).

42. MPI considers there would be extremely low to nil levels of fruit flies on the commodities when harvested in the field.

PHYTOSANITARY VERIFICATION AND INSPECTION

43. All Australian growers producing fruit fly host commodities for export to New Zealand are registered to comply with the Australia – New Zealand BQA, which incorporates the pre-export operational requirements needed to gain biosecurity clearance against IHS 152.02. The requirements include documentation, inspections, security and traceability throughout export pathways.

44. The DAFF pre-export operational requirements include certification, audit and verification of the activities of all parties involved in an export pathway. An important component on these export pathways is verifying approved treatments have been applied effectively through the inspection of fruit fly host commodities (see Proposed export system, Appendix 3).

45. DAFF (2012b) has provided information on the diagnostics of locating oviposition sites (‘stings’) for detection of immature lifestages of fruit fly that can internally infest fruit. Stings can be visually detected at approximately 0.5mm across or greater on smooth skinned fruit; an additional diagnostic is the presence of liquid on the surface of the fruit indicating a sting through which liquid can escape. Gently squeezing of the fruit can also produce liquid through stings and aid in detection efficacy. The recent detection of fruit fly in mango intercepted on the mail pathway demonstrates the effectiveness of the inspection process.

46. The sting may initially be difficult to detect; the sting does cause secondary infections and discolouration on the fruit around the sting site, indicative of fruit fly infestation. Exporters and inspectors in Australia are trained to inspect for fruit flies and cut fruit upon suspicion of any infestation, recording all details.

47. MPI considers there is extremely low to nil levels of fruit fly infestation/re-infestation on host commodities at harvest and during post harvest processing and treatment on the BQA export pathways.

Section 4: Conclusion

48. As per the section 'Information considered', MPI has reached the following conclusion regarding the DAFF proposals.

PROPOSED MEASURE 1: METHYL BROMIDE FUMIGATION AS A STANDALONE TREATMENT

49. MPI does not consider the stand alone methyl bromide fumigation to be an equivalent to the dimethoate pathway it is replacing. Although the ICA-04 treatment rates are used for Australian interstate market access, there is limited inspection information that aids calculation of pre-treatment infestation levels. Therefore, it is unclear whether the efficacy of Tasmania trade data utilising the ICA-04 treatment recorded by DAFF is solely a result from methyl bromide fumigation or whether activities in the field assist by reducing fruit fly infestation. The trade data (DAFF, 2012a) does show that the measure is working for Tasmania and therefore provides a useful component of the preferred system. At this time comparing the efficacy of the limited trials and the potential from a
worst case scenario, methyl bromide as a stand-alone measure is not seen as an equivalent to the use of dimethoate as a post harvest treatment.

Therefore, MPI does not support Proposed Measure 1.

PROPOSED MEASURE 2: METHYL BROMIDE FUMIGATION AND IN-FIELD CONTROL PROGRAMMES

50. Australia has systems in place for registering and certifying in-field control programmes and methyl bromide fumigation treatments.

51. In-field control programmes using approved insecticides reduce levels of fruit flies on host commodities to extremely low or nil levels (DAFF, 2012b). This is confirmed by findings from inspections in packhouses and export premises (DAFF, 2011).

52. The ICA-04 methyl bromide fumigation treatment rates have been used successfully in Australia for many years to manage the risks of fruit fly in interstate trade of host commodities and host commodities exported from Australia. The ICA-04 treatment requires no prior in-field control measures to be effective. The ICA-04 treatment therefore effectively manages risks from fruit flies at a range of infestation levels including levels higher than those present on fruit exported to New Zealand. However, the presence of any live fruit fly on an imported commodity is unacceptable and hence New Zealand requires in-field control measures to reduce the levels to very low levels prior to treatment.

53. MPI ‘worst case’ modelling has shown that in-field control programmes and associated procedures (that is, without fumigation) would reduce infestation of fruit flies from 23.6 million to 246 flies on the pathway (MPI, 2012b). In practice, the in-field infestation levels are extremely low.

54. MPI has modelled data from imports of Australian host commodities into Tasmania using ICA-04 treatment rates. The modelling shows an extremely low infestation level on host commodities at volumes that would exceed that arriving in one place on any given day in New Zealand (2012b). MPI concluded:

“…the temperature schedules within ICA-04 between 10°C and 32°C combined with the in-field fruit fly management systems used by growers should provide sufficient levels of efficacy on fruit produced under commercial production systems in Australia and exported to New Zealand.”

MPI supports Proposed Measure 2 as an equivalent system of risk management to the in-field control programmes and dimethoate dip/spray export pathway.

Methyl bromide is an effective general fumigant that will also control other arthropods associated with the export pathways.

Section 5: MPI Recommendation

55. MPI recommends the IHS152.02: Importation and clearance of fresh fruit and vegetables into New Zealand, and the individual commodity standards for capsicums, cucumbers, scallopinis, tomatoes and zucchinis be amended to include the new measure consisting
of in-field control programmes (BQA Appendix 10) and methyl bromide fumigation (Appendix 3).

56. DAFF will perform a single phytosanitary certification inspection 600 unit sample (using magnification) before the methyl bromide fumigation treatment; this will provide system feedback to MPI of any detection of fruit flies and other regulated organisms prior to treatment. Any detection of economically significant fruit flies will deem the consignment ineligible for export to New Zealand and will result in an investigative audit by DAFF.

57. Any interception/detection of live fruit flies of economic significance on the commodities at the New Zealand border will indicate failure of the new measure. In this instance, MPI will reship or destroy the consignment and suspend imports of the commodity, until the source of the non-compliance can be investigated, identified and rectified. When MPI is satisfied exporters are able to meet the import requirements, and DAFF has provided and verified supporting evidence, trade suspensions may be lifted.

58. A description of the proposed in-field control programmes in conjunction with methyl bromide fumigation pathway can be found in Appendix 3.

59. MPI considers the efficacy trials for the control of Qfly to be efficacious at rates proposed by DAFF within the ICA-04 sliding scale. The use of methyl bromide fumigation would be an extension of the current BQA Appendix 3 which is in place for fumigation of strawberries and watermelons (MPI, 2012a) exported from Australia, in addition to treatment schedules Australia has in place for other trading partners in these commodities for control of Qfly and cucumber fruit fly (DAFF, 2012d).

Section 6: Feasibility and practicality of implementation of the alternative proposals

60. To implement the proposals would not require an extensive amount of organisation or alteration to the existing requirements on the affected fruit fly host commodity export pathways. The Appendix 10 in-field control programmes are already in place for capsicums, cucumbers tomatoes and would need to be established for scallopini and zucchini. Treatment facilities are already registered and audited for to the treatment of watermelons and strawberries for export to the New Zealand market using methyl bromide fumigation.
## Appendix 1: List of Treatment Appendices (NZ MPI/DAFF Bilateral Quarantine Arrangement)

<table>
<thead>
<tr>
<th>APPENDIX NUMBER</th>
<th>TREATMENT</th>
<th>SPECIFICATION</th>
<th>COMMODITY</th>
</tr>
</thead>
</table>
| 3               | Methyl Bromide Fumigation| 48 g/m³ for 3 hrs at a flesh temperature >15°C at a loading of not greater than 50% chamber capacity  
32 g/m³ for 4 hrs at a flesh temperature of 21-26°C at a loading of not greater than 50% chamber capacity  
In addition to Appendix 10 apply the applicable rate according to flesh temperature for a period of 2 hours, at a loading of not greater than 50% chamber capacity.  
48 g/m³ at 10-14.9°C  
40 g/m³ at 15-20.9°C  
32 g/m³ at 21-25.9°C  
24 g/m³ at 26-31.9°C | Strawberry (*Fragaria sp.*)  
Watermelon (*Citrullus lanatus*)  
Capsicum (*Capsicum annuum*)  
Cucumber (*Cucumis sativus*)  
Scallopini (*Cucurbita pepo*)  
Tomato (*Lycopersicon esculentum*)  
Zucchini (*Cucurbita pepo*) |

**Bold text** in schedule indicates new entry.

**Note** – zucchini (*Cucurbita pepo*) will require the implementation of Appendix 10 previously not utilised under the dimethoate export pathway.

And for each commodity amend the IHS 152.02 schedule page and individual standards. The Appendix 4 (dimethoate dip/spray) treatment pathway is currently suspended for capsicums, cucumbers, scallopinis, tomatoes and zucchinis and may be removed from the import health standard and BQA once the Australian Pesticides and Veterinary Medicines Authority finalises its review of dimethoate in October 2012.
Appendix 2: Capsicum example

Bold text indicates new entry:

Scientific Name: Capsicum annuum

Common Name: Capsicum

Country: Australia

PHYTOSANITARY CERTIFICATE - ADDITIONAL DECLARATIONS

The capsicums in this consignment have:

(i) been inspected in accordance with appropriate official procedures and found to be free from any visually detectable quarantine pests, specified by the New Zealand Ministry for Primary Industries.

AND

(ii) undergone appropriate pest control activities that are effective against those risk group 2 regulated pests specified by NZ MPI.

OR

been sourced from an area free from those risk group 2 regulated pests specified by NZ MPI.

AND

(iii) treated in accordance with either

Appendix 2; or, Appendix 3 and Appendix 10; or Appendix 4 and Appendix 10

of the Arrangement between the New Zealand Ministry for Primary Industries and the Australian Quarantine and Inspection Service concerning the access of host material of fruit fly species of economic significance into New Zealand from Australia.

OTHER INFORMATION:

- Specific import health standard available at:
Appendix 3: Proposed export pathway (Australia to New Zealand)

**Proposed export system – In-field control programmes & Methyl bromide fumigation**

- **In-field control programmes**
  - Grower blocks registration, field inspections and fumigant crop monitoring in compliance with MPI IHS 152.02 Appendix 10 and pre-export operational requirements.
  - Treatment with approved fruit fly cover spray at least 5 weeks prior to harvest at recommended label rates in compliance with MPI IHS 152.02 Appendix 10 and pre-export operational requirements.
  - DAFF conducts initial audit to ensure growers are fully aware of the MPI IHS 152.02 Appendix 10 and pre-export operational requirements.
  - DAFF undertakes monthly audits of registered grower blocks throughout the export season, and monitors crop monitoring records and sprayer diaries. Where substantial compliance is recorded audit frequency will be reduced to 2 months.

- **Packing shed 600 unit inspection**
  - Growers random 600 unit inspection conducted, fruit that are soft, bruised or display rot spots are cut to determine evidence of fruit fly infestation. Inspection records retained for DAFF audit. There is no tolerance for live fruit fly (adult, eggs or larvae), if detected processing unit is rejected from export.

- **Export Delegate 600 unit inspection**
  - Produce undergoes random 600 unit Export Delegate (ED) inspection, fruit that are soft, bruised or display rot spots are cut to determine evidence of fruit fly infestation. Inspection records retained for DAFF audit. There is no tolerance for live fruit fly (adult, eggs or larvae), if detected processing unit is rejected from export.

- **DAFF 600 unit inspection**
  - DAFF ensures the required paperwork is accurate and verified before commencing inspection, taking note of any risk organisms detected during the grower and ED inspections. Produce undergoes random 600 unit DAFF grower inspection, line inspection, fruit that are soft, bruised or display rot spots are cut to determine evidence of fruit fly infestation. Inspection records on NZ inspection record, inspection records retained by DAFF. There is no tolerance for live fruit fly (adult, eggs or larvae), if detected processing unit is rejected from export.

- **Post harvest treatment**
  - Methyl bromide fumigation of produce by DAFF approved treatment facility utilizing approved fumigant rates from MPI IHS 152.02.

- **DAFF phytosanitary certification**
  - DAFF issue of phytosanitary certificate once inspection, MPI IHS 152.02 and pre-export operational requirements are met.

- **MPI 600 unit inspection**
  - Produce undergoes random 600 unit consignment/treatment pathway inspection, fruit that are soft, bruised or display rot spots are cut to determine evidence of fruit fly infestation.
Appendix 4: Methyl bromide use

- Methyl bromide fumigation as an approved measure for Australian watermelon and strawberries imported into New Zealand for control of *Bactrocera cucumis* and *B. tryoni*, respectively (Appendix 3 of Australia – New Zealand BQA: MPI, 2012a);
- Methyl bromide as an approved measure for Tongan watermelon imported into New Zealand for control of *B. xanthodes* (Appendix 4 of Tonga – New Zealand BQA: MPI, 2012a);
- Methyl bromide as an approved measure for USA strawberries, stonefruit, and table grapes imported into New Zealand for control of *Drosophila suzukii* (*Drosophila suzukii* Treatment Specification USA – New Zealand BQA: MPI, 2012a);
- Methyl bromide as an approved measure for USA cherries imported into New Zealand for control of *Rhagolitis* spp (Fruit Fly Treatment Specification USA – New Zealand BQA: MPI, 2012a);
- Australian export of fruit fly host commodities fumigated with methyl bromide to French Polynesia, India, Mauritius, New Caledonia, Solomon Islands and Vietnam for control of *B. tryoni* (DAFF, 2012a);
- Methyl bromide as an approved measure for capsicums from the USA imported into Australia for control of *Ceratitis capitata* (DAFF, 2012a);
- Methyl bromide as an approved measure for cucumbers exported to the Solomon Islands, French Polynesia, New Caledonia, Vietnam (DAFF, 2012d) and USA (USDA, 1994) for control of *B. cucumis*.
- Methyl bromide fumigation for *Bactrocera tryoni* on capsicums, cherries, and apples (Jessup 1993a, 1993b and 1994).
References


DAFF (2011) Trade data for fruit fly host commodities exported from Australia to New Zealand. Letter from the Australian Department of Agriculture, Fisheries and Forestry to the New Zealand Ministry of Agriculture and Forestry.

DAFF (2012a) Trade data for fruit fly host commodities exported from mainland Australia to Tasmania during January 2000. Letter from the Australian Department of Agriculture, Fisheries and Forestry to the New Zealand Ministry of Agriculture and Forestry.

DAFF (2012b) Additional information to support emergency measures. Letter from the Australian Department of Agriculture, Fisheries and Forestry to the New Zealand Ministry of Agriculture and Forestry.


MPI (2012c) QuanCargo database report – Inception reports of fruit fly host commodities from 1996-2012.


