

CHAPTER ELEVEN

THE UNRESTRICTED RISK POSED BY OTHER PESTS

Introduction

11.1 This chapter initially examines the overall risk assessment in the draft IRA of pests, other than *Erwinia amylovora*, associated with pome fruit from New Zealand. As noted in Chapter Nine, from their preliminary pest categorisation, BA identified 17 pests associated with the importation of fresh apple fruit from New Zealand. Subsequent risk assessment identified 11 of those 17 (including *Erwinia amylovora*) as outside Australia's ALOP.

11.2 In turn, the chapter considers concerns raised by various parties during the conduct of this inquiry in relation to BA's assessment of the unrestricted risk posed by these other pests. In particular, many concerns were raised in relation to the possibility that particular pests may act as a vector for the transfer of *Erwinia amylovora*. In addition, the potential impact of particular pests on other crops was also raised.

The Unrestricted Risk Assessment of Other Pests

11.3 As noted in Chapter Nine, BA identified 17 pests of quarantine concern in the draft IRA as associated with the importation of fresh apple fruit from New Zealand.

11.4 From its subsequent risk assessment, BA identified 11 of those 17 pests (eight insects, one mite, one bacterium and one fungus) as posing an unrestricted risk greater than Australia's ALOP (ie "very low").¹ Table 11.1 below from the draft IRA marks in bold the 11 pests considered outside Australia's ALOP.

1 Biosecurity Australia, *Draft Import Risk Analysis on the Importation of Apples from New Zealand*, October 2000, p 99

Table 11.1: Risk Assessment Summary

Scientific Name	Common Name	Probability of:			Probability of entry, establishment and spread ^a (P = P1xP2xP3)	Economic Consequence (C)	Unrestricted Risk (R=PxC)
		Entry (P1)	Establishment (P2)	Spread (P3)			
<i>Cnephasia jactatana</i>	Dried fruit beetle	Low	High	High	Low	Moderate	Very Low
<i>Carpophilus</i> spp.	Black lyre moth	Low	High	Moderate	Low	Moderate	Very Low
<i>Ctenopseustis herana</i>	Brown-headed leaf-roller	High	High	High	High	Moderate	Moderate
<i>Ctenopseustis obliquana</i>	Brown-headed leaf-roller	High	High	High	High	Moderate	Moderate
<i>Dasineura mali</i> Kieffer	Apple leaf-curling midge	Moderate	Moderate	Moderate	Low	High	Low
<i>Graphania mutans</i>	Cutworm	Low	High	High	Low	Moderate	Very Low
<i>Graphania</i> specificity	Cutworm	Low	High	High	Low	Moderate	Very Low
<i>Planotortix excessana</i>	Green-headed leaf-roller	High	High	High	High	Moderate	Moderate
<i>Planotortix octo</i>	Green-headed leaf-roller	High	High	High	High	Moderate	Moderate
Pseudococcidae species	Mealy bugs	Moderate	High	High	Moderate	Moderate	Low
<i>Pyrgotis plagiatana</i>	Native leaf-roller	Low	High	High	Low	Low	Negligible
<i>Stathmopoda horticola</i>	Oecophorid moth	Low	High	High	Low	Moderate	Very Low
<i>Thrips obscuratus</i>	New Zealand flower thrips	High	Moderate	High	Moderate	Moderate	Low
Torticinae species	Leaf-rollers	High	High	High	High	Moderate	Moderate
<i>Eriophyes mali</i>	Apple blister mite	High	Moderate	High	Moderate	Moderate	Low
<i>Erwinia amylovora</i>	Fire blight	Low	High	High	Low	Extreme *	Moderate
<i>Nectria galligena</i>	European canker	Low	High	High	Low	High	Low

Source: Biosecurity Australia, *Draft Import Risk Analysis on the Importation of Apples from New Zealand*, October 2000, pp 97-98

* This rating includes likely consequences to the pear industry. The definition of extreme consequences is that serious effects extend to more than one geographic region.

Criticisms of the Unrestricted Risk Assessment of Other Pests

11.5 Various parties argued during the conduct of this inquiry that the draft IRA includes insufficient research on other pests and pathogens that may enter Australia should the importation of New Zealand apples proceed.

11.6 Two particular issues raised in relation to pests other than *Erwinia amylovora* were the role of such pests in the transfer of *Erwinia amylovora*, and their potential impact on crops other than pome fruit. These are discussed below.

The Role of Other Pome Fruit Pests in the Transfer of Erwinia Amylovora

11.7 In its supplementary written submission, the NSW Government noted that the insects and mites most likely to transmit *Erwinia amylovora* are those that live in the calyx, but emerge at some stage in their life cycle. They include *Carpophilus spp* (dried fruit beetle), *Dasineura mali* Kieffer (apple leaf curling midge), *Pseudococcidae* (Mealybug), *Thrips obscuratus* (Flower thrips) and *Eriophytes mali* (apple blister mite):

The high-risk calyx-infesting group identified above could not only persist in the calyx of the fruit but would also be difficult to detect. Therefore the risk for importation of these species remains undetermined, as these species have the potential to act as vectors for the spread of fire blight.²

11.8 The AAPGA highlighted the same pests in its written submission, although it also nominated *Cnephasia jactatana* (black lyre moth), *Stathmopoda horticola* (oecophorid moth) and *Thrips obscuratus* (New Zealand flower thrips) as having the potential to carry *Erwinia amylovora*.³ In turn, the AAPGA claimed:

At several public meetings, BA representatives have confirmed that there has been no research undertaken to determine if any of these insects or, as importantly, insects that are not quarantinable pests, are potential vectors for the spread of the fire blight bacterium.⁴

11.9 Given this concern, the Committee is only aware on one study which has investigated in detail the role of such pests in the transfer of *Erwinia amylovora*. That is a study by Gouk and Boyd (1999) which examined the role of apple leaf-curling midge in the spread of *Erwinia amylovora*.⁵

11.10 Gouk and Boyd monitored the incidence of apple leaf-curling midge and corresponding outbreaks of fire blight during in the 1997-98 New Zealand growing season. They found that trees without apple leaf-curling midge did not develop fire

2 Submission 40A, p 3

3 Submission 33, pp 42-46

4 Submission 33, p 49

5 S.C.Gouk & R.J.Boyd, 'Role of Apple Leaf-curling Midge in the Spread of Fire Blight', *Pathogens of Fruit and Vegetables*, 1999

blight, whereas 61.7 per cent of trees with apple leaf-curling midge subsequently developed the disease:

These findings provide the first quantitative evidence that ALCM may be involved in the spread of fire blight.⁶

11.11 Mr McMahon from the Queensland Fire Blight Task Force advised in hearings that US authorities have recently required that all New Zealand apples bound for California be fumigated in methyl bromide in response to the high incidence of leaf-curling midge in apples exported from New Zealand.⁷

11.12 The Committee also notes the written submission of the NSW Government that the draft IRA omits at least one and possibly two mites which occur on apples in New Zealand and are exotic to Australia:

- a) *Diptacus gigantorhynchus* (big beaked plum mite). The NSW Government indicated that it is not known whether this species is present in Australia, but there is no definitive evidence of its presence.
- b) *Calepitrimerus bailey* (Keifer) (apple blister mite). The NSW Government indicated that the species is present in New Zealand but has not been found in Australia.⁸

The Potential Impact of Pome Fruit Pests on other Crops

11.13 In its written submission, the Victorian Farmers Federation Grains Group indicated its concern that the two varieties of cutworm considered in the draft IRA (*Graphania mutans* and *Graphania specificity*) could establish in Australia. The draft IRA assessed the probability of entry of these pests as “low”, but the probability of establishment and spread as “high”.⁹

11.14 The Victorian Farmers’ Federation Grains Group suggested that these two varieties of cutworm are potentially a large threat to the long-term viability of the grain industry in Australia. The draft IRA acknowledges that these two varieties of cutworm feed on a wide range of hosts, including wheat. In addition, the Group claimed it was not consulted by BA on the matter:

Biosecurity Australia claim to have consulted widely about the issues related to importation of New Zealand apples. This claim has been proved false. Although cutworm is a side issued to the fire blight debate, this

6 *Ibid*

7 Evidence, RRAT, 12 February 2001, p 71

8 Submission 40A, pp 2-3

9 Submission 6, p 1

incidence still illustrates the lamentable lack of consultation with wider industry.¹⁰

11.15 Senator Crane also noted in hearings the statement at page 110 of the draft IRA in regard to the economic consequences of *Eriophytes mali* (apple blister mites) that ‘no information is available on the loss of yield caused by the mites’.

11.16 In response, the Tasmanian Government indicated that this may be explained by the fact that *E.mali* has only recently been separated taxonomically as a distinct species from a close relative which inhabits pear plants.

11.17 That said, the Tasmanian Government indicated that the apple blister mite (*E.Mali*) is restricted in hosts to apple plants, and poses no threat to crops other than apples. In addition, it would be unlikely to cause significant damage to apple trees except where the population was very high, which the Tasmanian Government argued would not occur often in a commercially managed orchard.¹¹

11.18 Finally, Mr Farrell from Environment Australia cited the example of *Nectria galligena* (European Canker). He noted the successful eradication of this pest from Tasmania following a 10-year program costing approximately \$10 million. However, prior to its eradication, the Canker proved itself able to reside in forest habitats and to infect a wide range of Australian species:

So we know that at least one of these species has entered Australia in the past and has caused significant damage.¹²

11.19 The Committee believes that BA should have commissioned additional research during the conduct of the draft IRA to address the issues raised above. In particular, the Committee notes the possible role of some pome fruit pests in the transfer of *Erwinia amylovora*.

11.20 On the basis of the above concerns, the Committee believes that BA may underestimate the chance of mechanical transfer of *Erwinia amylovora* from a discarded apple core to a suitable host (estimated by BA at 1 in 1,000 to 1 in 10,000).

10 Submission 6, p 1

11 Tasmanian Government, Response to Questions on Notice on 14 February 2001, p 4

12 Evidence, RRAT, 28 February 2001, p 356

