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**A Pathway-Initiated Risk Analysis for the
export seed of *Zea mays*, *Cynodon* spp.,
Festuca spp., *Lolium* spp., *Oryza* spp.,
Panicum spp., *Paspalum* spp., *Solanum
lycopersicum*, *Brassica* spp. *Capsicum* spp.,
Lactuca spp., *Cucurbita* spp., *Cucumis* spp.,
and *Citrullus* spp. from the United States to
the Republic of Vietnam**

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Executive Summary

The Plant Epidemiology and Risk Analysis Laboratory of the United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Science and Technology (USDA-APHIS-PPQ-CPHST) has evaluated the potential introduction of quarantine pests into the Republic of Vietnam with the importation of commercially produced *Zea mays*, *Cynodon* spp., *Festuca* spp., *Lolium* spp., *Oryza* spp., *Panicum* spp., and *Paspalum* spp. (Poaceae plant species) and *Solanum lycopersicum*, *Brassica* spp., *Capsicum* spp., *Lactuca* spp., *Cucurbita* spp., *Cucumis* spp., and *Citrullus* spp. (non-Poaceae plant species) seeds from the United States.

A total of 580 pests were evaluated as potential pests that could be introduced with the importation of *Zea mays*, *Cynodon* spp., *Festuca* spp., *Lolium* spp., *Oryza* spp., *Panicum* spp., and *Paspalum* spp. (Poaceae) and *Solanum lycopersicum*, *Brassica* spp., *Capsicum* spp., *Lactuca* spp., *Cucurbita* spp., *Cucumis* spp., and *Citrullus* spp. (non-Poaceae) seeds into the Republic of Vietnam. From this analysis, we identified 46 pests of quarantine significance to the Republic of Vietnam that can follow the seed pathway; these include nine bacteria, 22 fungi, three insects, one nematode, and 11 viruses.

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1. Introduction

We prepared this commodity-based, pathway-initiated pest risk assessment in response to a request by U.S. seed producers to allow the export of seed of several commodities into the Republic of Vietnam.

1.1 Background

The request is for the importation of dry seed of *Zea mays*, *Cynodon* spp., *Festuca* spp., *Lolium* spp., *Oryza* spp., *Panicum* spp., and *Paspalum* spp. (Poaceae) and *Solanum lycopersicum*, *Brassica* spp., *Capsicum* spp., *Lactuca* spp., *Cucurbita* spp., *Cucumis* spp., and *Citrillus* spp. (non-Poaceae) plant species.

There will be controls to avoid contamination with noxious weeds. Normal phytosanitary controls should be used as in the commercial production of the same species.

2. Pest List and Pest Categorization

The pest list of these seeds commodities was developed based on the information obtained from the Ministry of Agriculture and Rural Development of the Socialist Republic of Vietnam (MARD, 2005). Some pests can be expected to follow the pathway in commercial shipments of these seeds. A pest is considered able to follow the pathway if it is associated with the commodity and likely to survive with and remain on the commodity until entry into the Republic of Vietnam.

- Pests of quarantine significance for Vietnam are listed in Tables 1 and 2. These pests were selected based on the following criteria: a) they have been reported to be present in the United States, b) they are absent or are not known to be present in the Republic of Vietnam, and c) they are seed borne and have been proven to be seed transmitted. Species highlighted in gray are pests that regulated by the Ministry of Agriculture and Rural Development of the Socialist Republic of Vietnam (MARD, 2005).
- Additional organisms that are not identified as quarantine pests by MARD but that meet the criteria for quarantine pests described here are also included in Tables 1 and 2.
- Pests of no quarantine significance for the republic of Vietnam are listed in the appendices

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Table 1. Pests of quarantine significance for the Republic of Vietnam on seeds of non-Poaceae plant genera.

Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrullus</i> spp.
Bacteria							
<i>Acidovorax citrulli</i> (Schaad et al.) Schaad et al.					Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)
<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> (Smith) Davis et al.	Seed transmitted (CABI, 2013)						
<i>Pseudomonas corrugata</i> Roberts & Scarlett, emend. Sutra et al.	Seed transmitted (CABI, 2013)						
<i>Pseudomonas syringae</i> pv. <i>lachrymans</i> (Smith & Bryan) Young Dye & Wilkie						Seed transmitted (CABI, 2013)	
<i>Pseudomonas syringae</i> pv. <i>syringae</i>	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	
<i>Pseudomonas syringae</i> pv. <i>tomato</i> (Okabe) Young, Dye & Wilkie	Seed transmitted (CABI, 2013)						
<i>Pseudomonas viridiflava</i> (Burkholder) Dowson	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)
<i>Rhodococcus fascians</i> (Tilford) Goodfellow	Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)	
Fungi							
<i>Albugo candida</i> (Pers.) Kuntze		Seed transmitted (CABI, 2013)					
<i>Alternaria brassicicola</i> (Schwein.) Wiltshire	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)	
<i>Alternaria dauci</i> (J.G.	Seed	Seed		Seed		Seed	

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrullus</i> spp.
Kühn) J.W. Groves & Skolko	transmitted (CABI, 2013)	transmitted (CABI, 2013)		transmitted (CABI, 2013)		transmitted (CABI, 2013)	
<i>Alternaria japonica</i> Yoshii	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)					
<i>Gibberella avenacea</i> R.J. Cook	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	
<i>Leptosphaeria maculans</i> (Desm.) Ces. & de Not.		Seed transmitted (CABI, 2013)					
<i>Sarocladium strictum</i> (W. Gams) Summerb	Seed transmitted (CABI, 2013)						
Virus							
<i>Alfalfa mosaic virus</i>	Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)			
<i>Arabis mosaic virus</i>				Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	
<i>Bean yellow mosaic virus</i>					Seed transmitted (CABI, 2013)		
<i>Lettuce mosaic virus</i>				Seed transmitted (CABI, 2013)			
<i>Potato spindle tuber viroid</i>	Seed transmitted (CABI, 2013)						
<i>Squash mosaic virus</i>					Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)
<i>Tobacco streak virus</i>	Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)	

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrullus</i> spp.
<i>Tomato bushy stunt virus</i> (Lycopersicon virus 4)	Seed transmitted (CABI, 2013)						
<i>Tomato mosaic virus</i>	Seed transmitted (CABI, 2013)						

Conclusion for seeds of the analyzed non-Poaceae genera (Table 1)

We identified a total of 24 pests of quarantine significance on all these commodities; these include eight bacteria, seven fungi, and nine viruses. From this list, we identified 16 pests on *Solanum lycopersicum*, 11 on *Cucumis* spp., eight each on *Brassica* spp. and *Lactuca* spp., seven on *Cucurbita* spp., three on *Citrullus* spp., and two on *Capsicum* spp.

Based on the list of pests that are regulated by the Ministry of Agriculture and Rural Development of the Republic of Vietnam (MARD, 2005), only *Clavibacter michiganensis* subsp. *michiganensis* on tomato would be considered a quarantine pest.

Table 2. Pests of quarantine significance for the Republic of Vietnam on seeds of Poaceae plant genera.

Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.
Bacteria							
<i>Acidovorax citrulli</i> (Schaad et al.) Schaad et al.						Seed transmitted (CABI, 2013)	
<i>Clavibacter michiganensis</i> subsp. <i>nebraskensis</i>	Seed transmitted (CABI, 2013)						
<i>Pantoea stewartii</i> (Smith) Mergaert et al.	Seed transmitted (CABI, 2013)						
<i>Pseudomonas corrugata</i> Roberts & Scarlett, emend. Sutra et al.	Seed transmitted (CABI, 2013)						
<i>Pseudomonas syringae</i> pv.		Seed					

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Pest	<i>Zea mays</i>	<i>Cynodon spp.</i>	<i>Festuca spp.</i>	<i>Lolium spp.</i>	<i>Oryza spp.</i>	<i>Panicum spp.</i>	<i>Paspalum spp.</i>
<i>pisi</i> (Sackett) Young et al.		transmitted (CABI, 2013)					
<i>Pseudomonas syringae</i> pv. <i>syringae</i>		Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	
<i>Pseudomonas viridiflava</i> (Burkholder) Dowson	Seed transmitted (CABI, 2013)						
<i>Rathayibacter rathayi</i> (Smith) Zgurskaya et al.		Seed transmitted (CABI, 2013)					
Fungi							
<i>Balansia oryzae-sativae</i> Hashioka		Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)
<i>Cochliobolus spicifer</i> Nelson		Seed transmitted (CABI, 2013)					
<i>Fusarium culmorum</i> (W.G. Sm.) Sacc.				Seed transmitted (CABI, 2013)			
<i>Gibberella avenacea</i> R.J. Cook	Seed transmitted (CABI, 2013)			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)		
<i>Glomerella graminicola</i> Politis	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)					
<i>Monographella nivalis</i> (Schaffnit) E.Müll. Anamorph: <i>Micronectriella nivalis</i> (Schaffnit) C. Booth			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)		
<i>Neotyphodium coenophialum</i> (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin			Seed transmitted (CABI, 2013)				
<i>Phaeosphaeria nodorum</i> (E. Müll.) Hedjar		Seed transmitted (CABI, 2013)		Seed transmitted (CABI, 2013)			

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Pest	<i>Zea mays</i>	<i>Cynodon spp.</i>	<i>Festuca spp.</i>	<i>Lolium spp.</i>	<i>Oryza spp.</i>	<i>Panicum spp.</i>	<i>Paspalum spp.</i>
<i>Pyrenophora chaetomioides</i> Speg.			Seed transmitted (CABI, 2013)				
<i>Pyrenophora tritici-repentis</i> (Died.) Drechsler			Seed transmitted (CABI, 2013)				
<i>Sarocladium strictum</i> (W. Gams) Summerb	Seed transmitted (CABI, 2013)						
<i>Stenocarpella macrospora</i> (Earle) B.Sutton	Seed transmitted (CABI, 2013)						
<i>Stenocarpella maydis</i> (Berk.) B. Sutton	Seed transmitted (CABI, 2013)						
<i>Trichoconiella padwickii</i> (Ganguly) B.L. Jain					Seed transmitted (CABI, 2013)		
<i>Urocystis agropyri</i> (Preuss) A.A. Fisch. Walldh			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)			
Nematodes							
<i>Anguina agrostis</i> (Steinbuch) Filipjev,			Seed transmitted (CABI, 2013)	Seed transmitted (CABI, 2013)			
Viruses							
<i>Maize chlorotic mottle virus</i>	Seed transmitted (CABI, 2013)						
<i>Maize dwarf mosaic virus</i>	Seed transmitted (CABI, 2013)					Seed transmitted (CABI, 2013)	

Conclusion for seeds of analyzed Poaceae genera (Table 2)

We identified a total of 26 pests of quarantine significance on all these commodities; these include three insects, eight bacteria, 15 fungi, one nematode, and two viruses. From this list, we identified 11 pests on *Zea mays*, seven on *Cynodon spp.*, six each on *Festuca spp.* and *Lolium spp.*, five on *Oryza spp.*, three on *Panicum spp.*, and one on *Paspalum spp.*

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Based on the list of pests that regulated by the Ministry of Agriculture and Rural Development of the Republic of Vietnam (MARD, 2005), only *Pantoea stewartii* on corn would be considered a quarantine pest.

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5. Appendices

Appendix A. Pest list for *Solanum lycopersicum*, *Brassica* spp., *Capsicum* spp., *Lactuca* spp., *Cucurbita* spp., *Cucumis* spp., and *Citrullus* spp. (non-Poaceae) seeds from the United States.

Below we list a group of organisms that **cannot be** considered of quarantine significance for the Republic of Vietnam due to the following reasons: a) pest is present in Vietnam, b) pest is not seedborne, c) there is no reliable evidence of seed transmission, and d) pest is present and regulated in the United States. Species highlighted in gray are pests regulated by the Ministry of Agriculture and Rural Development (MARD) of the Republic of Vietnam, species bolded are pests regulated by the United States, and pest with limited distribution are shown with the state abbreviation in brackets [AB].

Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrullus</i> spp.	Vietnam	Seed	Comments
Mites										
<i>Aculops lycopersici</i> (Tryon)			CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Acarus siro</i> Linnaeus	CABI, 2013	CABI, 2013						Not known	Yes	External feeder (CABI, 2013)
<i>Mononychellus tanajoa</i>	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Petrobia latens</i> (O.F. Müller)				CABI, 2013		CABI, 2013		Not known	No	Foliage feeder (CABI, 2013)
<i>Phytonemus pallidus</i> (Banks)			CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Polyphagotarsonemus latus</i> Banks	CABI, 2013		CABI, 2013			CABI, 2013		Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus cinnabarinus</i> (Boisduval)	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus pacificus</i> McGregor						CABI, 2013	CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus urticae</i> Koch	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Tyrophagus putrescentiae</i> (Schrank)						CABI, 2013		Not known	Yes	External feeder (CABI, 2013)
Insects										
<i>Acalymma vittatum</i> (Fabricius)		CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Achaea janata</i> (Linnaeus)	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Acrosternum hilare</i> (Say)	CABI, 2013	CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Acyrtosiphon kondoi</i> Shinji					CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Adelphocoris lineolatus</i> Goeze	CABI, 2013			CABI, 2013		CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Agriotes lineatus</i> (Linnaeus)	CABI, 2013	CABI, 2013		CABI, 2013				Not known	No	Host status unknown (CABI, 2013); root and leaf feeder (CABI, 2013)
<i>Agrotis ipsilon</i> (Hufnagel)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Ahasverus advena</i> (Waltl)				CABI, 2013				Not known	Yes	External feeder (CABI, 2013)
<i>Aleurodicus dispersus</i> Russell	CABI, 2013		CABI, 2013			CABI, 2013		CABI, 2013	No	External feeder (CABI, 2013)
<i>Anthonomus eugenii</i> Cano	CABI, 2013		CABI, 2013					Not known	No	Fruit feeder (CABI, 2013)
<i>Aonidiella orientalis</i> (Newstead)					[FL] (CABI, 2013)			Not known	No	Foliage feeder (CABI, 2013)
<i>Aphis craccivora</i> Koch	CABI, 2013	CABI, 2013	CABI, 2013					CABI, 2013	No	External feeder (CABI, 2013)
<i>Aphis fabae</i> Scopoli	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Aphis gossypii</i> Glover	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Aphis spiraecola</i> Patch			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI,	No	External feeder

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
								2013		(CABI, 2013)
<i>Araecerus fasciculatus</i> (De Geer)						CABI, 2013		CABI, 2013	No	External feeder (CABI, 2013)
<i>Aspidiotus destructor</i> Signoret	CABI, 2013	CABI, 2013	CABI, 2013					CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Atherigona orientalis</i> Schiner	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Internal feeder (CABI, 2013)
<i>Aulacaspis tubercularis</i> Newstead					CABI, 2013			CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Aulacorthum solani</i> Kaltenbach	CABI, 2013		CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Bemisia tabaci</i> (Gennadius)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Bemisia tabaci</i> (B biotype) (Gennadius)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Brachycaudus helichrysi</i> Kaltenbach	CABI, 2013				CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Cacoecimorpha pronubana</i> Hübner	[OR] (CABI, 2013)	[OR] (CABI, 2013)						Not known	No	External feeder (CABI, 2013)
<i>Ceroplastes ceriferus</i> (Indian wax scale)					CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Ceutorhynchus assimilis</i> (Paykull)		CABI, 2013						Not known	Yes	External feeder (CABI, 2013)
<i>Chaetocnema confinis</i> Crotch		CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Chrysodeixis eriosoma</i> Doubleday	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	CABI, 2013	No	External feeder (CABI, 2013)
<i>Chrysodeixis includens</i> (Walker)		CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Circulifer tenellus</i> (Baker)	CABI, 2013	CABI, 2013	CABI, 2013					Not known	No	External feeder (CABI, 2013)
<i>Coccus hesperidum</i> Linnaeus					CABI, 2013		CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Contarinia nasturtii</i> (Kieffer)		CABI, 2013						Not known	No	Foliage feeder (CABI, 2013)
<i>Corcyra cephalonica</i> (Stainton)			CABI, 2013					CABI, 2013	No	External feeder (CABI, 2013)
<i>Crociosema plebejana</i> Zeller					[CA, FL, LO, NM, NC, SC, TX] (CABI, 2013)			Not known	No	Foliage feeder (CABI, 2013)
<i>Chromatomyia horticola</i> Goureau	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Delia floralis</i> (Fallén)		CABI, 2013						Not known	No	Internal feeder (CABI, 2013)
<i>Delia platura</i> (Meigen)		CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	Women Union of Vinh Chau District, 2010	Yes	Underground feeder; especially germinating seeds; not associated with flowering structures (CABI, 2013)
<i>Delia radicum</i> Linnaeus		CABI, 2013						Not known	No	Internal feeder (CABI, 2013)
<i>Diabrotica balteata</i> Leconte	CABI, 2013				CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Diabrotica barberi</i> Smith & Lawrence, (Krysan et al.)					CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Diabrotica undecimpunctata</i> Mannerheim					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Diabrotica virgifera virgifera</i> LeConte					CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Diaphania indica</i> (Saunders)		[FL] (CABI, 2013)			[FL] (CABI, 2013)	[FL] (CABI, 2013)	[FL] (CABI, 2013)	CABI, 2013	No	External feeder (CABI, 2013)
<i>Diaphania nitidalis</i> (Stoll)					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Diaprepes abbreviatus</i> (Linnaeus)			[FL, MS] (CABI,					Not known	No	External feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
			2013)							
<i>Duponchelia fovealis</i> Zeller			CABI, 2013	CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Dysmicoccus brevipes</i> (Cockerell)		[CA, FL, HI, LA] (CABI, 2013)	[CA, FL, HI, LA] (CABI, 2013)		CA, FL, HI, LA] (CABI, 2013	CA, FL, HI, LA] (CABI, 2013		CABI, 2013	No	External feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Elasmopalpus lignosellus</i> (Zeller)		CABI, 2013						CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Empoasca fabae</i> Harris	CABI, 2013					CABI, 2013		Not known	No	Foliage feeder (CABI, 2013)
<i>Epitrix cucumeris</i> (Harris)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Epitrix tuberis</i> Gentner	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	Internal feeder (CABI, 2013)
<i>Eudocima fullonia</i> (Clerck)	[HI] (CABI, 2013)		[HI] (CABI, 2013)			[HI] (CABI, 2013)		CABI, 2013	No	Fruit feeder (CABI, 2013)
<i>Ferrisia virgata</i> Cockerell	CABI, 2013				CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Frankliniella fusca</i> (Hinds)	CABI, 2013		CABI, 2013				CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)
<i>Frankliniella intonsa</i> (Trybom)	CABI, 2013		CABI, 2013					Not known	No	External feeder (CABI, 2013)
<i>Frankliniella occidentalis</i> (Pergande)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Frankliniella schultzei</i> (Trybom)	CABI, 2013			CABI, 2013	CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Gryllotalpa africana</i> Palisot de Beauvois		CABI, 2013						CABI, 2013	No	Root feeder (CABI, 2013)
<i>Gryllotalpa gryllotalpa</i> (Linnaeus)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	Root feeder (CABI, 2013)
<i>Helicoverpa zea</i> (Boddie)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Heliothis virescens</i>	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013			Not known	No	External feeder

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
(Fabricius)										(CABI, 2013)
<i>Hellula undalis</i> (Fabricius)		[HI] (CABI, 2013)						CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Hercinothrips femoralis</i> (Reuter)						CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Hydraecia micacea</i> (Esper)	CABI, 2013							Not known	No	Foliage and root feeder (CABI, 2013)
<i>Hypera postica</i> (Gyllenhal)		CABI, 2013		CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Hyperomyzus lactucae</i> Linnaeus				CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Keiferia lycopersicella</i> Walsingham	CABI, 2013							Not known	No	Foliage and fruit feeder (CABI, 2013)
<i>Lasioderma serricorne</i> Fabricius			CABI, 2013					Not known	Yes	Pest of dried products; especially a pest of cured tobacco (CABI, 2013)
<i>Latheticus oryzae</i> Waterhouse		CABI, 2013						Not known	Yes	External feeder (CABI, 2013)
<i>Leptitarsa decemlineata</i> Say	CABI, 2013							Regulated (MARD, 2005)	No	Foliage feeder (CABI, 2013)
<i>Limonius californicus</i> (Mannerheim)		CABI, 2013					CABI, 2013	Not known	No	Root feeder (CABI, 2013)
<i>Limothrips cerealium</i> (Haliday)		CABI, 2013						Not known	Yes	External feeder (CABI, 2013)
<i>Limothrips denticornis</i> Haliday		CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Lipaphis erysimi</i> Kaltenbach		CABI, 2013						Not known	No	Foliage feeder (CABI, 2013)
<i>Liposcelis bostrychophila</i> (Badonnel)			CABI, 2013					Not known	Yes	External feeder (CABI, 2013)
<i>Liriomyza brassicae</i>		CABI, 2013						Not known	No	Foliage feeder

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
Riley										(CABI, 2013)
<i>Liriomyza sativae</i> Blanchard	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Liriomyza trifolii</i> Burgess et al., 2008	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)
<i>Listroderes costirostris</i> Schönherr	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Lygus lineolaris</i> Palisot de Beauvois		CABI, 2013				CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Macrosiphum euphorbiae</i> Thomas	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Macrosteles quadrilineatus</i> (Forbes)				CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Manduca quinquemaculata</i> (Haworth)	CABI, 2013	CABI, 2013	CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Manduca sexta</i> (Linnaeus)	CABI, 2013		CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Melanoplus bivittatus</i> (Say)		CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Melanoplus sanguinipes</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Melanotus communis</i> Gyllenhal			CABI, 2013					Not known	No	Root feeder (CABI, 2013)
<i>Meligethes aeneus</i> Fabricius	CABI, 2013	CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Murgantia histrionica</i> (Hahn)	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Mythimna unipuncta</i> Haworth Syn: <i>Pseudaletia unipuncta</i>	CABI, 2013	CABI, 2013						Not known	Yes	External feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
(Haworth)										
<i>Myzus persicae</i> Sulzer	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Nesidiocoris tenuis</i> (Reuter)	CABI, 2013							CABI, 2013	No	Foliage and fruit feeder (CABI, 2013)
<i>Nasonovia ribisnigri</i> (Mosley)				CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Nezara viridula</i> (Linnaeus)	CABI, 2013	CABI, 2013	CABI, 2013					Not known	Yes	External feeder (CABI, 2013)
<i>Noctua pronuba</i> (Linnaeus)		CABI, 2013		CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Opogona sacchari</i> Bojer			[FL, HI] (CABI, 2013)					Not known	No	Foliage feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Orthezia insignis</i> Browne	CABI, 2013		CABI, 2013					Not known	No	External feeder (CABI, 2013)
<i>Oryzaephilus mercator</i> (Fauvel)						CABI, 2013		Not known	Yes	External feeder (CABI, 2013)
<i>Ostrinia nubilalis</i> (Hübner)			CABI, 2013					Not known	Yes	External feeder (CABI, 2013)
<i>Parabemisia myricae</i> (Kuwana)	[CA, FL, HI] (CABI, 2013)							CABI, 2013	No	External feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Paracoccus marginatus</i> Williams & Granara de Willink	[FL, HI] (CABI, 2013)		[FL, HI] (CABI, 2013)					Not known	No	External feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Parasaissetia nigra</i> (Nietner)			CABI, 2013		CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Perkinsiella saccharicida</i>	[FL, HI, TX]							CABI,	No	Foliage feeding (CABI, 2013); US

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
Kirkaldy, G.W.	(CABI, 2013)							2013		regulated pest (PestID, 2013)
<i>Pentalonia nigronervosa</i> Coquerel	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Peridroma saucia</i> (Hübner)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Phenacoccus madeirensis</i> Green			CABI, 2013					Not known	No	External feeder (CABI, 2013)
<i>Phenacoccus solenopsis</i> Tinsley	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Philaenus spumarius</i> Linnaeus	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Phyllotreta cruciferae</i> (Goeze)		CABI, 2013						Not known	Yes	External feeder (CABI, 2013)
<i>Phyllotreta striolata</i> (Fabricius)		CABI, 2013						CABI, 2013	No	External feeder (CABI, 2013)
<i>Phthorimaea operculella</i> (Zeller)	CABI, 2013		CABI, 2013					CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Pieris napi</i> (Linnaeus)		CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Pieris rapae</i> Linnaeus		CABI, 2013						CABI, 2013	No	External feeder (CABI, 2013)
<i>Piezodorus guildinii</i> (Westwood)			CABI, 2013					Not known	No	External feeder (CABI, 2013)
<i>Planococcus citri</i> (Risso)	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Platynota stultana</i> Walsingham	CABI, 2013		CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Pseudaulacaspis pentagona</i> (Targioni Tozzetti)			CABI, 2013					CABI, 2013	No	External feeder (CABI, 2013)
<i>Pseudococcus calceolariae</i> (Maskell)		CABI, 2013						Not known	No	External feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Pseudococcus jackbeardsleyi</i> (Jack Beardsley mealybug)	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Psila rosae</i> (Fabricius)		CABI, 2013						Not known	No	Foliage feeder (CABI, 2013)
<i>Rhopalosiphum rufiabdominale</i> (Sasaki)	CABI, 2013				CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Rhyzopertha dominica</i> (Fabricius)			CABI, 2013					CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Saissetia coffeae</i> (Walker)			CABI, 2013		CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Solenopsis geminata</i> (Fabricius)	CABI, 2013	CABI, 2013				CABI, 2013		CABI, 2013	No	External feeder (CABI, 2013)
<i>Sophonia orientalis</i> (Matsumura)			[CA, HI] (CABI, 2013)					Not known	No	Foliage feeder (CABI, 2013)
<i>Spodoptera eridania</i> Stoll	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Spodoptera exempta</i> Walker		[CA, HI, KS, OR, WA, WI] (CABI, 2013)	[CA, HI, KS, OR, WA, WI] (CABI, 2013)					CABI, 2013	No	External feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Spodoptera exigua</i> (Hübner)	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Spodoptera frugiperda</i> J.E. Smith	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Spodoptera mauritia acronyctoides</i> Guenée	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Spoladea recurvalis</i> (Fabricius)							CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Stegobium paniceum</i> (Linnaeus)	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Symmetrischema tangolias</i> (Gyen)	CABI, 2013							Not known	No	Foliage and fruit feeder (CABI, 2013)
<i>Thaumatotibia leucotreta</i> Meyrick			[CA] (CABI, 2013)					Not known	Yes	Internal feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Thrips hawaiiensis</i> (Morgan)		CABI, 2013	CABI, 2013					CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Thrips palmi</i> Karny	[HI] (CABI, 2013)		[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)	[HI] (CABI, 2013)		CABI, 2013	No	External feeding (CABI, 2013); US regulated pest (PestID, 2013)
<i>Thrips tabaci</i> Lindeman	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013		CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Trialeurodes vaporariorum</i> Westwood	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Foliage feeder (CABI, 2013)
<i>Tipula paludosa</i> Meigen				CABI, 2013				Not known	No	Root feeder (CABI, 2013)
<i>Tribolium castaneum</i> Herbst		CABI, 2013	CABI, 2013					CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Tribolium confusum</i> Jacquelin du Val								CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Trichoplusia ni</i> (Hübner)	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Trogoderma variabile</i> Ballion				CABI, 2013				Not known	Yes	External feeder (CABI, 2013)
<i>Unaspis citri</i> (Comstock)			CABI, 2013					CABI, 2013	No	External feeder (CABI, 2013)
<i>Xestia c-nigrum</i> (Linnaeus)	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013		CABI, 2013	Yes	External feeder (CABI, 2013)
Bacteria										

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Acidovorax avenae</i> subsp. <i>avenae</i> (Manns) Willems et al.		CABI, 2013						CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Burkholderia andropogonis</i> (Smith 1911) Gillis et al.		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Burkholderia cepacia</i> (ex Burkholder) Yabuuchi et al.	CABI, 2013	CABI, 2013		CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i> (Spieckermann & Kotthoff) Dye & Kemp	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Dickeya chrysanthemi</i> (Burkholder et al.) Samson et al.	CABI, 2013		CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Dickeya dianthicola</i> (Samson et al.)	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Dickeya zeae</i> Samson et al.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Erwinia tracheiphila</i> (Smith)					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Pantoea ananatis</i> pv. <i>ananatis</i> (Serrano) Mergaert et al.	CABI, 2013					CABI, 2013		Not known	No	No evidence of seed transmission in <i>Zea mays</i> (CABI, 2013)
<i>Pectobacterium atrosepticum</i> (van Hall) Gardan et al.	CABI, 2013	CABI, 2013				CABI, 2013		CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Erwinia rhapontici</i> (Millard) Burkholder	CABI, 2013					CABI, 2013		Not known	Yes	Seed borne (Huang 2003); seed transmitted (CABI, 2013). No evidence

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
										of seed transmission in tomato or <i>Cucumis</i> sp.
<i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> (Jones) Hauben et al.	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
<i>Pseudomonas cichorii</i> (Swingle) Stapp	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013			CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Pseudomonas marginalis</i> pv. <i>marginalis</i> (Brown) Stevens	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Not known		Not seed transmitted (CABI, 2013)
<i>Pseudomonas syringae</i> van Hall	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013		Burgess et al., 2008	No	Host status unknown (CABI, 2013)
<i>Pseudomonas syringae</i> pv. <i>aptata</i> (Brown & Jamieson) Young et al.			CABI, 2013			CABI, 2013		Not known	No	No evidence of seed transmission in <i>Capsicum</i> spp. (CABI, 2013)
<i>Pseudomonas syringae</i> pv. <i>maculicola</i> (McCulloch) Young et al.		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Pseudomonas syringae</i> pv. <i>tabaci</i> (Wolf & Foster) Young et al.,	CABI, 2013		CABI, 2013			CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Ralstonia solanacearum</i> (Smith) Yabuuchi et al.	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013		CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Ralstonia solanacearum</i> race 1 (Smith) Yabuuchi et al.	CABI, 2013		CABI, 2013					CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Rhizobium radiobacter</i> (Beijerinck & van	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI,

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
Delden) Young et al.										2013)
<i>Rhizobium rhizogenes</i> (Riker et al.) Young et al.	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Xanthomonas albilineans</i> (Ashby) Dowson								CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Xanthomonas campestris</i> pv. <i>armoraciae</i> (McCulloch) Dye		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013) in <i>Brassica</i> (CABI, 2013)
<i>Xanthomonas campestris</i> pv. <i>campestris</i> (Pammel) Dowson		CABI, 2013						CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Xanthomonas vesicatoria</i> (Doidge) Dowson	CABI, 2013		CABI, 2013					Vien, 2005	Yes	Seed transmitted (CABI, 2013)
Fungi										
<i>Alternaria brassicae</i> (Berk.) Sacc	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Alternaria tomato</i> (Cooke) L.R. Jones	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Aspergillus flavus</i> Link	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Aspergillus niger</i> Tiegh	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Athelia rolfsii</i> (Curzi) C. C. Tu & Kimbr	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Botryotinia fuckeliana</i> (de Bary) Whetzel	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Luong et al., 2010	Yes	Seed transmitted on beans (CABI, 2013)
<i>Bremia lactucae</i> Regel				CABI, 2013				Not known	No	Not seed transmitted (CABI,

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Ceratocystis fimbriata</i> Ellis & Halst.				CABI, 2013				CABI, 2013	No	2013) Not seed transmitted (CABI, 2013)
<i>Cercospora apii</i> Fresen.			CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Cercospora nicotianae</i> Ellis & Everh.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Chalara elegans</i> Nag Raj & W.B. Kendr	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	Yes	Seed transmission reported in peanuts (CABI, 2013)
<i>Choanephora cucurbitarum</i> (Berk. & Ravenel) Thaxt.		CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Cladosporium cucumerinum</i> Ellis & Arthur					CABI, 2013	CABI, 2013	CABI, 2013	Cuong et al., 2008; Quang et al., 2010	Yes	Seedborne (CABI, 2013)
<i>Cochliobolus lunatus</i> R.R. Nelson & Haasis	CABI, 2013		CABI, 2013			CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Cochliobolus sativus</i> (S. Ito & Kurib.) Drechsler ex Dastur		CABI, 2013		CABI, 2013				Minh et al., 1997	Yes	Seed transmitted (CABI, 2013)
<i>Colletotrichum acutatum</i> Simmonds ex Simmonds			CABI, 2013					Than et al., 2008	No	Unknown (CABI, 2013)
<i>Colletotrichum capsici</i> (Syd.) E.J. Butler & Bisby	CABI, 2013		CABI, 2013					Than et al., 2008	No	Unconfirmed reports on cowpea and <i>Capsicum</i> (CABI, 2013)
<i>Colletotrichum dematium</i> (Pers.) Grove	CABI, 2013		CABI, 2013					Nguyen et al., 2010	Yes	Seed transmitted (CABI, 2013)
<i>Colletotrichum orbiculare</i> (Berk. & Mont.) Arx					CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Unknown (CABI, 2013)
<i>Colletotrichum</i>			CABI, 2013					CABI,	Yes	Seed transmission

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>truncatum</i> (Schwein.) Andrus & W.D. Moore								2013		reported in soybeans (CABI, 2013)
<i>Diaporthe phaseolorum</i> (Cooke & Ell.) Sacc			CABI, 2013					Not known	Yes	Host status unknown (CABI, 2013)
<i>Diaporthe phaseolorum</i> var. <i>meridionalis</i> F.A. Fern.	CABI, 2013							Not known	Yes	Seed transmission reported in soybeans (CABI, 2013)
<i>Diaporthe phaseolorum</i> var. <i>sojae</i> (Lehman) Wehm.	CABI, 2013		CABI, 2013					Not known	Yes	Seed transmission reported in soybeans (CABI, 2013)
<i>Didymella bryoniae</i> (Auersw.) Rehm					CABI, 2013	CABI, 2013	CABI, 2013	FAO, 2008	Yes	Unknown (CABI, 2013)
<i>Didymella ligulicola</i> (Baker, Dimock & Davis) v. Arx				CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Didymella lycopersici</i> Kleb	CABI, 2013		CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Erysiphe cruciferarum</i> Opiz ex L. Junell		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Fusarium oxysporum</i> Schlechtendahl	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	RBG and Domain Trust, 2013	No	Unknown (CABI, 2013)
<i>Fusarium oxysporum</i> f.sp. <i>cucumerinum</i> J.H. Owen						CABI, 2013		Not known	Yes	Unknown (CABI, 2013)
<i>Fusarium oxysporum</i> f.sp. <i>radicis-lycopersici</i> Jarvis & Shoemaker	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Fusarium oxysporum</i>							CABI, 2013	CABI, 2013	Yes	Seed transmitted (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
f.sp. <i>niveum</i> (E.F. Sm.) Snyder & H.N. Hansen										
<i>Fusarium oxysporum</i> f.sp. <i>vasinfectum</i> (G.F. Atk.) W.C. Snyder & H.N. Hansen			CABI, 2013					CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Gaeumannomyces graminis</i> var. <i>graminis</i> (Sacc.) v. Arx & Olivier								Not known	No	Not seed transmitted (CABI, 2013)
<i>Gibberella fujikuroi</i> var. <i>fujikuroi</i> (Sawada) Wollenw	CABI, 2013					CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Gibberella zeae</i> (Schwein.) Petch		CABI, 2013			CABI, 2013			RBG and Domain Trust, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Glomerella cingulata</i> (Stonem.) Spauld. & Schrenk	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Golovinomyces cichoracearum</i> (DC.) V.P. Heluta				CABI, 2013	CABI, 2013		CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Golovinomyces orontii</i> (Castagne) V.P. Heluta	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Haematonectria haematococca</i> (Berk. & Broome) Samuels & Rossman	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Hyaloperonospora parasitica</i> (downy mildew)		CABI, 2013						Mehta et al., 2005	Yes	Seed transmitted (CABI, 2013)
<i>Khuskia oryzae</i> Huds.		CABI, 2013						Not known	Yes	Not seed transmitted (CABI, 2013)
<i>Lasiodiplodia</i>			CABI, 2013			CABI, 2013		CABI,	Yes	Seed transmitted

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>theobromae</i> (Pat.) Griffiths & Maubl.								2013		(CABI, 2013)
<i>Leveillula taurica</i> (Lév.) G. Arnaud	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Macrophomina phaseolina</i> (Tassi) Goid	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	Not known	Yes	Not seed transmitted (CABI, 2013)
<i>Microdochium panattonianum</i> (Berl.) B.Sutton, Galea & T.V. Price				CABI, 2013				Not known	Yes	Seed borne (CABI, 2013)
<i>Monosporascus cannonballus</i> Pollack & Uecker						[AR, CA, KS, TX] (CABI, 2013)	[AR, CA, KS, TX] (CABI, 2013)	Not known	No	Unknown (CABI, 2013)
<i>Oidium neolycopersici</i> L. Kiss	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Olpidium brassicae</i> (Woronin) P.A. Dang.	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Passalora fulva</i> (Cooke) U. Braun & Crous	CABI, 2013							CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Penicillium digitatum</i> (Pers.) Sacc.	CABI, 2013	CABI, 2013						CABI, 2013	No	Unknown (CABI, 2013)
<i>Penicillium expansum</i> Link	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Penicillium expansum</i> Link	CABI, 2013	CABI, 2013						Not known	No	Unknown (CABI, 2013)
<i>Penicillium italicum</i> Stoll	CABI, 2013					CABI, 2013		CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Phomopsis longicolla</i> Hobbs	CABI, 2013		CABI, 2013					Not known	Yes	Unconfirmed report on <i>Capsicum</i> and tomato (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Phytophthora cactorum</i> (Lebert & Cohn) J. Schröt.	CABI, 2013					CABI, 2013	CABI, 2013	CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora capsici</i> Leonian	CABI, 2013				CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora citrophthora</i> (R.H. Sm. & E. Sm.) Leonian							CABI, 2013	CABI, 2013	No	Seed transmitted on citrus (CABI, 2013)
<i>Phytophthora cryptogea</i> Pethybr. & Laff.	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora erythroseptica</i> var. <i>erythroseptica</i> (Waterhouse)	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora infestans</i> (Mont.) de Bary	CABI, 2013							CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Phytophthora megasperma</i> Drechsler	CABI, 2013	CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora nicotianae</i> (black shank)	CABI, 2013		CABI, 2013					CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora porri</i> Foister		CABI, 2013		CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Plasmodiophora brassicae</i> Woronin		CABI, 2013				CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Podosphaera fusca</i> (Fr.) U. Braun & Shishkoff				CABI, 2013				CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Podosphaera xanthii</i> (Castagne) U. Braun &					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
Shishkoff										
<i>Pseudocercospora fuligena</i> (Roldan) Deighton	CABI, 2013		CABI, 2013					CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Pseudoperonospora cubensis</i> (Berk. & M.A. Curtis) Rostovtzev					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Pythium aphanidermatum</i> (Edson) Fitzp	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Pythium arrhenomanes</i> Drechsler	CABI, 2013							Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium debaryanum</i> Hesse	CABI, 2013	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013	Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium graminicola</i> Subram.								Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium irregulare</i> Buisman	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Pythium myriotylum</i> Drechsler	CABI, 2013	CABI, 2013				CABI, 2013	CABI, 2013	Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium oligandrum</i> Drechsler	CABI, 2013	CABI, 2013				CABI, 2013		Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium splendens</i> Braun		CABI, 2013				CABI, 2013		CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Pythium vexans</i> de Bary	CABI, 2013	CABI, 2013					CABI, 2013	CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Rosellinia necatrix</i> Prill.		CABI, 2013						Not known	No	Soil borne pathogen (CABI, 2013)
<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Yes	Seed transmission unknown (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Spongospora subterranea</i> f.sp. <i>subterranea</i> J.A. Toml	CABI, 2013		CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Stemphylium vesicarium</i> (Wallr.) E.G. Simmons	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Streptomyces scabies</i> (ex Thaxter) Lambert & Loria		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Thanatephorus cucumeris</i> (Frank) Donk	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	Yes	Seedborne, seed transmitted unknown (CABI, 2013)
<i>Ulocladium atrum</i> Preuss						CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Verticillium albo-atrum</i> Reinke & Berthold	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013		Regulated (MARD, 2005)	No	Reported in <i>Brassica</i> seeds, but transmission is unknown (CABI, 2013)
<i>Verticillium dahliae</i> Kleb.	CABI, 2013	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013	Not known	No	Reported in <i>Brassica</i> seeds, but transmission is unknown (CABI, 2013)
Nematodes										
<i>Aphelenchoides ritzemabosi</i> (Chrysanthemum foliar eelworm)	CABI, 2013							Not known	No	Foliar nematode (CABI, 2013)
<i>Belonolaimus longicaudatus</i> Rau	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	Not known	No	Root nematode (CABI, 2013)
<i>Ditylenchus destructor</i> Thorne	CABI, 2013				CABI, 2013	CABI, 2013		Regulated (MARD, 2005)	No	Foliage nematode (CABI, 2013)
<i>Ditylenchus dipsaci</i> (Kühn) Filip'ev		CABI, 2013	CABI, 2013					Regulated (MARD, 2005)	No	Foliage nematode (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Globodera pallida</i> (Stone) Behrens	CABI, 2013							Regulated (MARD, 2005)	No	Foliage nematode (CABI, 2013)
<i>Globodera rostochiensis</i> (Wollenweber) Behrens	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Globodera tabacum</i> (Lownsbery & Lownsbery) Behrens	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Helicotylenchus dihystera</i> (Cobb) Sher	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Helicotylenchus multicinctus</i> (Cobb) Golden		CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Helicotylenchus pseudorobustus</i> (Steiner) Golden	CABI, 2013			CABI, 2013		CABI, 2013		CABI, 2013	No	Root nematode (CABI, 2013)
<i>Hemicycliophora arenaria</i> Raski	CABI, 2013		CABI, 2013		CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Heterodera glycines</i> Ichinohe	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Hirschmanniella oryzae</i> (van Breda de Haan) Luc&Goodey	CABI, 2013							CABI, 2013	No	Root nematode (CABI, 2013)
<i>Longidorus elongatus</i> (de Man) Micoletzky	CABI, 2013	CABI, 2013		CABI, 2013				CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne arenaria</i> (Neal) Chitwood	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Root nematode (CABI, 2013)
<i>Meloidogyne chitwoodi</i> Golden, O'BanNon, Santo & Finley	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Meloidogyne</i>	CABI, 2013							Not known	No	Root nematode

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>floridensis</i>										(CABI, 2013)
<i>Meloidogyne graminicola</i> Golden & Birchfield		CABI, 2013						CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne hapla</i> Chitwood	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	Root nematode (CABI, 2013)
<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne javanica</i> (sugarcane eelworm)	CABI, 2013		CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne mayaguensis</i> Rammah & Hirschmann	[FL, PR] (CABI, 2013)		[FL, PR] (CABI, 2013)	[FL, PR] (CABI, 2013)		[FL, PR] (CABI, 2013)		Not known	No	Root nematode (CABI, 2013)
<i>Nacobbus aberrans</i> (Thorne) Thorne & Allen	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)	[AR, CO, KS, MT, NE, SD, UT, WY] (CABI, 2013)		Not known	No	Root nematode (CABI, 2013); US regulated pest (PestID, 2013)
<i>Paratrichodorus porosus</i> (Allen) Siddiqi	CABI, 2013	CABI, 2013			CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus brachyurus</i> (Godfrey) Filipjev & Schuurmans Stekhoven	CABI, 2013					CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus coffeae</i> (Zimmermann) Filipjev & Schuurmans Stekhoven					CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus penetrans</i> (Cobb)	CABI, 2013			CABI, 2013				CABI, 2013	No	Root nematode (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
Filipjev & Schuurmans Stekhoven										
<i>Pratylenchus thornei</i> Sher & Allen		CABI, 2013					CABI, 2013	Not known	No	Root nematode (CABI, 2013)
<i>Pratylenchus vulnus</i> Allen & Jensen		CABI, 2013						Not known	No	Root nematode (CABI, 2013)
<i>Pratylenchus zeae</i> Graham			[AR, FL, GA, HI, LA, MS, NC, TX] (CABI, 2013)	[AR, FL, GA, HI, LA, MS, NC, TX] (CABI, 2013)				CABI, 2013	No	Root nematode (CABI, 2013)
<i>Radopholus similis</i> (Cobb) Thorne	CABI, 2013							Regulated (MARD, 2005)	No	Root nematode (CABI, 2013)
<i>Rotylenchulus reniformis</i> Linford & Oliveira	restricted (CABI, 2013)	restricted (CABI, 2013)	restricted (CABI, 2013)	restricted (CABI, 2013)	restricted (CABI, 2013)	restricted (CABI, 2013)	restricted (CABI, 2013)	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Trichodorus primitivus</i> (de Man) Micoletzky		CABI, 2013						Not known	No	Root nematode (CABI, 2013)
<i>Scutellonema brachyurus</i> Steiner. Andrassy	CABI, 2013			CABI, 2013		CABI, 2013		Not known	No	Root nematode (CABI, 2013)
<i>Scutellonema bradys</i> (Steiner & Le Hew) Andrassy	[AR, FL] (CABI, 2013)							Not known	No	Root nematode (CABI, 2013)
<i>Tylenchorhynchus claytoni</i> Steiner	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Xiphinema americanum</i> Cobb	CABI, 2013				CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Xiphinema index</i> Thorne & Allen	[CA] (CABI, 2013)							Not known	No	root nematode (CABI, 2013)
<i>Xiphinema rivesi</i> Dalmasso						CABI, 2013		Not known	No	Root nematode (CABI, 2013)
<i>Zygotylenchus</i>	CABI, 2013		CABI, 2013			CABI, 2013		Not known	No	Root nematode (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>guevarai</i> (Tobar Jiménez) Braun & Loof										
Phytoplasmas										
aster yellows phytoplasma group	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
Grapevine yellows phytoplasmas	CABI, 2013		CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Spiroplasma citri</i>		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
Viruses										
<i>Beet mosaic virus</i>				CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Beet curly top virus</i>	CABI, 2013		CABI, 2013			CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Beet pseudoyellows virus</i>					CABI, 2013	CABI, 2013		Not known	No	No evidence of seed transmission (CABI, 2013)
<i>Beet western yellows virus</i>		No (CABI, 2013)		CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Broad bean wilt virus</i>	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Carnation mottle virus</i>				CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Cauliflower mosaic virus</i>		CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Citrus exocortis viroid</i>	CABI, 2013	CABI, 2013						CABI, 2013	No	Not seedborne (CABI, 2013)
<i>Clover yellow vein virus</i>					CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
<i>Cucumber green mottle mosaic virus</i>						CABI, 2013	CABI, 2013	CABI, 2013	Yes	Seed borne, seed transmitted (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Cucumber mosaic virus</i>	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Not reported in <i>Zea mays</i> (CABI, 2013)
<i>Cucurbit yellow stunting disorder virus</i>					[AZ, CA, FL, TX] (CABI, 2013)	[AZ, CA, FL, TX] (CABI, 2013)	[AZ, CA, FL, TX] (CABI, 2013)	Not known	No	Not seed transmitted (CABI, 2013)
<i>Impatiens necrotic spot virus (TSWV-I)</i>	CABI, 2013			CABI, 2013		CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Lettuce big-vein virus</i>				CABI, 2013				Not known	No	Not reported (CABI, 2013)
<i>Lettuce infectious yellows virus</i>				CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Papaya ringspot virus (papaya PRSV - strain P: papaya)</i>					CABI, 2013	CABI, 2013		CABI, 2013	Yes	Unconfirmed record (CABI, 2013)
<i>Peanut stunt virus</i>	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>PepiNo mosaic virus</i>	CABI, 2013							Werkman and Sansford, 2010	Yes	Seed borne, seed transmitted (CABI, 2013)
<i>Pepper golden mosaic virus</i>	[AZ, TX] (CABI, 2013)							Not known	No	Not seed transmitted (CABI, 2013)
<i>Pepper mild mottle virus</i>	CABI, 2013							Not known	Yes	Seed borne, seed transmitted (CABI, 2013)
<i>Potato leafroll virus</i>	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Potato virus X</i>	CABI, 2013	CABI, 2013	CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Potato virus Y</i>	CABI, 2013			CABI, 2013				CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Potato yellow dwarf nucleorhabdovirus</i>	CABI, 2013	CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)
<i>Prunus necrotic</i>						CABI, 2013		Not known	Yes	Seed borne, seed transmitted in

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>ringspot virus</i>										Prunus (CABI, 2013)
<i>Rice hoja blanca virus</i>						CABI, 2013		Werkman and Sansford, 2010	No	Not seed transmitted (CABI, 2013)
<i>Squash leaf curl virus</i>					[AZ, CA, TX] (CABI, 2013)	[AZ, CA, TX] (CABI, 2013)	[AZ, CA, TX] (CABI, 2013)	Not known	No	Not seed transmitted (CABI, 2013)
<i>Squash mosaic virus</i>					CABI, 2013	CABI, 2013	CABI, 2013	Not known	Yes	Seed borne, seed transmitted (CABI, 2013)
<i>Sweet potato feathery mottle virus</i>		CABI, 2013	CABI, 2013		CABI, 2013			CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Tobacco etch virus</i>	CABI, 2013		CABI, 2013					Not known	No	Not seed transmitted (CABI, 2013)
<i>Tobacco leaf curl virus</i>	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Tobacco mosaic virus</i>	CABI, 2013					CABI, 2013	CABI, 2013	Brcák and Pozdena, 1976	Yes	Seed borne, seed transmitted (CABI, 2013)
<i>Tobacco necrosis virus</i>	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Tobacco rattle virus</i>		CABI, 2013	CABI, 2013	CABI, 2013				Not known	No	Seed transmission reported in <i>Allium</i> , <i>Viola</i> , <i>Myosotis</i> , <i>Lamiun</i> , <i>Capsella</i> , <i>Polygonum</i> , <i>Papaver</i> , <i>Portulaca</i> , <i>Solanum sarachoiudes</i> , <i>Xanthium</i> , and <i>Aponaria</i> (CABI, 2013)
<i>Tobacco ringspot virus</i>	CABI, 2013					CABI, 2013	CABI, 2013	Not known	Yes	Reported in <i>Solanum tuberosum</i> , soybean, and <i>Amaranthus</i> (CABI, 2013)
<i>Tomato chlorosis virus</i>	CABI, 2013	CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Solanum lycopersicum</i>	<i>Brassica</i> spp.	<i>Capsicum</i> spp.	<i>Lactuca</i> spp.	<i>Cucurbita</i> spp.	<i>Cucumis</i> spp.	<i>Citrillus</i> spp.	Vietnam	Seed	Comments
<i>Tomato infectious chlorosis virus</i>	CABI, 2013			CABI, 2013				Not known	No	2013) Not seed transmitted (CABI, 2013)
<i>Tomato mottle virus</i>	[AL, FL, SC, TN, VI] (CABI, 2013)							Not known	No	Not seed transmitted (CABI, 2013)
<i>Tomato ringspot virus</i>	CABI, 2013				CABI, 2013	CABI, 2013		Not known	No	Not seed transmitted (CABI, 2013)
<i>Tomato spotted wilt virus</i>	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Tomato yellow leaf curl virus</i>			CABI, 2013					Díaz-Pendón et al., 2010	No	Not seed transmitted (CABI, 2013)
<i>Turnip mosaic virus</i>		CABI, 2013		CABI, 2013				CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Watermelon mosaic virus</i>					CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Zucchini yellow mosaic virus</i>					CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Yes	Not seed transmitted (CABI, 2013)

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Appendix B. Pest list for *Zea mays*, *Cynodon* spp., *Festuca* spp., *Lolium* spp., *Oryza* spp., *Panicum* spp., and *Paspalum* spp. (Poaceae) seeds from the United States.

Below we list a group of organisms that are **not** considered of quarantine significance for the Republic of Vietnam due to the following reasons: a) pest is present in Vietnam, b) pest is not seedborne, c) there is no reliable evidence of seed transmission, and d) pest is present and regulated in the United States. Species highlighted in gray are pests regulated by the Ministry of Agriculture and Rural Development (MARD) of the Republic of Vietnam, species bolded are pests regulated by the United States, and pest with limited distribution are shown with the state abbreviation in brackets [AB].

Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Mites										
<i>Aceria tosichella</i> Keifer	CABI, 2013		CABI, 2013	CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Aceria tulipae</i> (Keifer,				CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Acarus siro</i> Linnaeus	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Brevipalpus phoenicis</i> (Geijskes)	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Penthaleus major</i> Dugès				CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus cinnabarinus</i> (Boisduval)	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus pacificus</i> McGregor	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Tetranychus urticae</i> Koch	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Typhaea stercorea</i> (Linnaeus)	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
Insect										
<i>Acalymma vittatum</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Acanthoscelides obtectus</i> Say	CABI, 2013							CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Aceria tosichella</i> Keifer	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Acrosternum hilare</i> (Say)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Agriotes lineatus</i> (Linnaeus)	CABI, 2013							Not known	No	Leaf feeder (CABI, 2013)
<i>Agrotis ipsilon</i> (Hufnagel)	CABI, 2013	CABI, 2013						CABI, 2013	No	External feeder (CABI, 2013)
<i>Ahasverus advena</i> (Waltl)	CABI, 2013				CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Alphitobius diaperinus</i> (Panzer)					CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Anaphothrips obscurus</i> Müller	CABI, 2013				CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Aphis craccivora</i> Koch	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Aphis fabae</i> Scopoli	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Aphis gossypii</i> Glover	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Aphis spiraecola</i> Patch	CABI, 2013	CABI, 2013						CABI, 2013	No	External feeder (CABI, 2013)
<i>Araecerus fasciculatus</i> (De Geer)	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Atherigona orientalis</i> Schiner	CABI, 2013				CABI, 2013			Not known	No	Internal feeder (CABI, 2013)
<i>Blissus leucopterus</i> (Say)	CABI, 2013				CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Brevinnia rehi</i> (Lindinger)		CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Cadra cautella</i> Walker	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Carpophilus hemipterus</i> (Linnaeus)	CABI, 2013							CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Carpophilus humeralis</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Caulophilus oryzae</i> (Gyllenhal)	CABI, 2013					CABI, 2013		Not known	No	This is a pest of stored grain and does not infest seeds in the field. (CABI, 2013).
<i>Chaetanaphothrips orchidii</i> (Moulton)	CABI, 2013						CABI, 2013	Not known	No	External feeder (CABI, 2013)
<i>Chaetocnema confinis</i> Crotch	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Chaetocnema pulicaria</i> Melsheimer	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	Leaf feeder (CABI, 2013)
<i>Chilo suppressalis</i> (Walker)	[HI] (CABI, 2013)				CABI, 2013	CABI, 2013		CABI, 2013	No	External feeder (CABI, 2013)
<i>Chlorophorus annularis</i> (Fabricius)	[HI] (CABI, 2013)							CABI, 2013	No	Internal feeder (CABI, 2013)
<i>Chrysodeixis eriosoma</i> Doubleday	[HI] (CABI, 2013)							CABI, 2013	No	External feeder (CABI, 2013)
<i>Chrysodeixis includens</i> (Walker)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Corcyra cephalonica</i> (rice meal moth)	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	No	External feeder (CABI, 2013)
<i>Cryptoblabes</i>	[HI] (CABI,				[HI] (CABI,			Not known	No	External feeder (CABI, 2013); US regulated

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>gnidiella</i> Millière	2013)				2013)					pest (PestID, 2013)
<i>Cryptolestes ferrugineus</i> (Stephens)	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Cryptolestes pusillus</i> Schönherr	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Cydia pomonella</i> Linnaeus	CABI, 2013							Not known	No	Affects fruits, including pods (CABI, 2013)
<i>Dalbulus maidis</i> DeLong & Wolcott	CABI, 2013							Not known	No	Leaf feeder (CABI, 2013)
<i>Delia platura</i> (Meigen)	CABI, 2013							Women Union of Vinh Chau District, 2010	Yes	Internal feeder (CABI, 2013)
<i>Diabrotica balteata</i> Leconte	CABI, 2013				CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Diabrotica barberi</i> Smith & Lawrence, (Krysan et al.)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Diabrotica undecimpunctata</i> Mannerheim	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Diabrotica virgifera virgifera</i> LeConte	CABI, 2013					CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Diaprepes abbreviatus</i> (Linnaeus)	[FL, MS] (CABI, 2013)							Not known	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Diatraea grandiosella</i> Dyar	CABI, 2013							Not known	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Diatraea saccharalis</i> Fabricius	CABI, 2013				CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Dinoderus minutus</i> (Fabricius)					[CA, FL] (CABI, 2013)			CABI, 2013	No	Stem feeder (CABI, 2013)
<i>Dysmicoccus brevipes</i> (Cockerell)	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Elasmopalpus lignosellus</i> (Zeller)	CABI, 2013				CABI, 2013			CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Epitrix cucumeris</i> (Harris)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Exomala orientalis</i> (Waterhouse)	CABI, 2013		CABI, 2013	CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Ferrisia virgata</i> Cockerell	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Fimbristylis littoralis</i> Gaud.					[HI] (CABI, 2013)			CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Frankliniella fusca</i> (Hinds)	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Frankliniella intonsa</i> (Trybom)					CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Frankliniella schultzei</i> (Trybom)					[CO, FL, HI] (CABI, 2013)			Not known	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Gryllotalpa africana</i> Palisot de Beauvois	[HI] (CABI, 2013)					[HI] (CABI, 2013)		CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Gryllotalpa gryllotalpa</i> (Linnaeus)	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Helicoverpa zea</i> (Boddie)	CABI, 2013					CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Heliothis virescens</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Hydraecia immanis</i> Guenée	CABI, 2013							Not known	No	Root feeder (CABI, 2013)
<i>Hydraecia micacea</i> (Esper)	[IA, NY, OH, WI] (CABI, 2013)							Not known	No	Foliage and root feeder (CABI, 2013)
<i>Hydrellia griseola</i> Fallén	CABI, 2013				CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Hydrellia philippina</i> Ferino		CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Hypera zoilus</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Lasioderma serricorne</i> Fabricius					CABI, 2013			Not known	Ye	Host status unknown (CABI, 2013)
<i>Latheticus oryzae</i> Waterhouse	CABI, 2013				CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Limoniuss californicus</i> (Mannerheim)	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Limothrips cerealium</i> (Haliday)	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Limothrips denticornis</i> Haliday	CABI, 2013			CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Liriomyza sativae</i> Blanchard	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Lissorhoptrus oryzophilus</i> Kuschel	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013		Not known	No	Foliage feeder (CABI, 2013)
<i>Lygus lineolaris</i> Palisot de Beauvois	CABI, 2013							Not known	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Maconellicoccus hirsutus</i> (Green)	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Macrosiphum euphorbiae</i> Thomas	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Macrosteles quadrilineatus</i> (Forbes)					CABI, 2013			Not known	No	Foliage feeder (CABI, 2013)
<i>Mamestra configurata</i> Walker	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Mayetiola destructor</i> (Say)		CABI, 2013						Not known	No	External feeder (CABI, 2013)
<i>Melanaphis sacchari</i> (Zehntner)	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Melanoplus bivittatus</i> (Say)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Melanoplus sanguinipes</i> (Fabricius)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Melanotus communis</i> Gyllenhal	CABI, 2013							Not known	No	Internal feeder (CABI, 2013)
<i>Meromyza saltatrix</i> (Linnaeus)			[AK] CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Metamasius hemipterus</i> Linnaeus	[FL] (CABI, 2013)							Not known	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Metopolophium dirhodum</i> (Walker)	CABI, 2013		CABI, 2013	CABI, 2013				Not known	No	Foliage feeder (CABI, 2013)
<i>Murgantia histrionica</i> (Hahn)	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Mythimna unipuncta</i> Haworth	CABI, 2013				CABI, 2013	CABI, 2013		Not known	Yes	External feeder (CABI, 2013)
<i>Myzus persicae</i> Sulzer	CABI, 2013			CABI, 2013				CABI, 2013	No	External feeder (CABI, 2013)
<i>Nezara viridula</i> (Linnaeus)	CABI, 2013				CABI, 2013			CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Noctua pronuba</i> (Linnaeus)				CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Oebalus insularis</i> Stål,					[FL] CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Opogona sacchari</i> Bojer	[FL, HI] (CABI, 2013)							Not known	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Orgyia leucostigma</i> (J.E. Smith)	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Oryzaephilus mercator</i> (Fauvel)					CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Oryzaephilus surinamensis</i> (Linnaeus)	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Oscinella frit</i> Linnaeus	CABI, 2013		CABI, 2013	CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Ostrinia nubilalis</i> (Hübner)	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Oulema melanopus</i> (Linnaeus)	CABI, 2013		CABI, 2013					Not known	No	Foliage feeder (CABI, 2013)
<i>Perkinsiella saccharicida</i> Kirkaldy, G.W.	[FL, HI, TX] (CABI, 2013)				[FL, HI, TX] (CABI, 2013)		[FL, HI, TX] (CABI, 2013)	CABI, 2013	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Peregrinus maidis</i> (Ashmead)	CABI, 2013				CABI, 2013			CABI, 2013	No	Foliage feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Peridroma saucia</i> (Hübner)	CABI, 2013			CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Piezodorus</i> <i>guildinii</i> (stink bug)					CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Phenacoccus</i> <i>solenopsis</i> Tinsley	CABI, 2013	CABI, 2013						CABI, 2013	No	External feeder (CABI, 2013)
<i>Platynota stultana</i> Walsingham	CABI, 2013							Not known	No	Foliage feeder (CABI, 2013)
<i>Plodia</i> <i>interpunctella</i> (Hübner)	CABI, 2013				CABI, 2013			CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Plutella xylostella</i> Linnaeus	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013)
<i>Prostephanus</i> <i>truncatus</i> (Horn)	CABI, 2013							CABI, 2013	No	This is a pest of stored grain and does not infest seeds in the field. Proper storage of harvested seeds may be sufficient to prevent infestation with this pest (CABI, 2013).
<i>Pseudococcus</i> <i>calceolariae</i> (Maskell)				CABI, 2013				Not known	No	External feeder (CABI, 2013)
<i>Pseudococcus</i> <i>jackbeardsleyi</i> Gimpel and Miller	CABI, 2013							Not known	No	External feeder (CABI, 2013)
<i>Popillia japonica</i> Newman	CABI, 2013							Regulated (MARD, 2005)	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Rhabdoscelus</i> <i>obscurus</i> (Boisduval)	[HI] (CABI, 2013)							Not known	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Rhopalosiphum</i>	CABI, 2013		CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	External feeder (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>insertum</i> (Walker)										
<i>Rhopalosiphum maidis</i> (Fitch)	CABI, 2013	CABI, 2013			CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Rhopalosiphum padi</i> Linnaeus	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Rhopalosiphum rufiabdominale</i> (Sasaki)				CABI, 2013	CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Rhyzopertha dominica</i> (Fabricius)	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	Yes	External feeder (CABI, 2013)
<i>Saccharicoccus sacchari</i> (Cockerell)					[FL, HI, TX] CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Scirtothrips dorsalis</i> Hood	CABI, 2013							CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Sesamia inferens</i> (Walker)	[HI] (CABI, 2013)				CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Sipha maydis</i> Passerini	CABI, 2013		CABI, 2013	CABI, 2013				Not known	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Sipha flava</i> (Forbes)		CABI, 2013			CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Sitobion avenae</i> (Fabricius)	CABI, 2013				CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Sitobion miscanthi</i> (Takahashi)	[HI] (CABI, 2013)	CABI, 2013			CABI, 2013		CABI 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Sitophilus granarius</i> Linnaeus	CABI, 2013				CABI, 2013	CABI, 2013		Regulated (MARD, 2005)	Yes	Internal feeder (CABI, 2013)
<i>Sitophilus zeamais</i>	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Internal feeder (CABI,

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Motschulsky										2013)
<i>Sitotroga cerealella</i> (Olivier)	CABI, 2013			CABI, 2013	CABI, 2013			Pham et al., 1994	Yes	Internal feeder (CABI, 2013)
<i>Solenopsis</i> <i>geminata</i> (Fabricius)	CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013)
<i>Solenopsis invicta</i> Buren	[AL, AR, FL, GA, LA, MS, NC, SC, TX] (APHIS)	CABI, 2013						Not known	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Sophonia orientalis</i> (Matsumura)	[CA, HI] (CABI, 2013)							Not known	No	Foliage feeder (CABI, 2013)
<i>Spodoptera</i> <i>eridania</i> Stoll in Cramer	CABI, 2013				CABI, 2013			Not known	No	External feeder (CABI, 2013)
<i>Spodoptera</i> <i>exempta</i> Walker	[CA, HI, KS, OR, WA, WI] (CABI, 2013)	[CA, HI, KS, OR, WA, WI] (CABI, 2013)			[CA, HI, KS, OR, WA, WI] (CABI, 2013)	[CA, HI, KS, OR, WA, WI] (CABI, 2013)		CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Spodoptera exigua</i> (Hübner)	CABI, 2013				CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Spodoptera</i> <i>frugiperda</i> J.E. Smith	CABI, 2013				CABI, 2013	CABI, 2013		Not known	No	External feeder (CABI, 2013)
<i>Spodoptera litura</i> (Fabricius)	[FL, HI] (CABI, 2013)				[FL, HI] (CABI, 2013)			CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Spodoptera</i> <i>mauritica</i> <i>acronyctoides</i>	[HI] (CABI, 2013)	CABI, 2013			CABI, 2013		CABI, 2013	CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Guenée										
<i>Spoladea recurvalis</i> (Fabricius)	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Stegobium paniceum</i> (Linnaeus)	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013		Not known	Yes	External feeder (CABI, 2013)
<i>Tagosodes orizicolus</i> Muir					[FL, LA, MS] CABI, 2013			Regulated (MARD, 2005)	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Tapima melanocephalum</i> (Fabricius)					CABI, 2013			CABI, 2013	No	External feeder (CABI, 2013)
<i>Tenebroides mauritanicus</i> Linnaeus	CABI, 2013							Not known	Yes	External feeder (CABI, 2013)
<i>Tetraneura nigriabdominalis</i> Sasaki		[FL] (CABI, 2013)			[FL] (CABI, 2013)	[FL] (CABI, 2013)	[FL] (CABI, 2013)	Not known	No	External feeder (CABI, 2013)
<i>Thaumatotibia leucotreta</i> Meyrick Syn: <i>Cryptophlebia leucotreta</i> (Meyrick)	[CA] (CABI, 2013)							Not known	Yes	Internal feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Thrips hawaiiensis</i> (Morgan)	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Thrips palmi</i> Karny	[HI] (CABI, 2013)				[HI] (CABI, 2013)			CABI, 2013	No	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
<i>Tipula paludosa</i> Meigen	[NY, OR, WA] CABI, 2013			[NY, OR, WA] CABI, 2013				[NY, OR, WA] CABI, 2013	No	Foliage feeder (CABI, 2013); US regulated pest (PestID, 2013);

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
CABI, 2013)										
<i>Tribolium castaneum</i> Herbst	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Tribolium confusum</i> Jacquelin du Val	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Internal feeder (CABI, 2013)
<i>Trichoplusia ni</i> (Hübner)	CABI, 2013							CABI, 2013	No	Foliage feeder (CABI, 2013)
<i>Trogoderma variabile</i> Ballion	CABI, 2013				CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Typhaea stercorea</i> (Linnaeus)	CABI, 2013				CABI, 2013			Not known	Yes	External feeder (CABI, 2013)
<i>Xestia c-nigrum</i> (Linnaeus)	CABI, 2013							CABI, 2013	Yes	External feeder (CABI, 2013); US regulated pest (PestID, 2013)
Bacteria										
<i>Acidovorax avenae</i> subsp. <i>avenae</i> (Manns 1909) Willems et al.							CABI, 2013	CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Acidovorax citrulli</i> (Schaad et al.) Schaad et al.						CABI, 2013		Not known	Yes	Seedborne externally (CABI, 2013)
<i>Burkholderia andropogonis</i> (Smith) Gillis et al.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Burkholderia cepacia</i> (ex Burkholder) Yabuuchi et al.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Burkholderia glumae</i> (Kurita & Tabei) Urakami et al.				CABI, 2013	CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Dickeya chrysanthemi</i> (Burkholder et al.) Samson et al.	CABI, 2013				CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Dickeya zeae</i> Samson et al.	CABI, 2013				CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
<i>Herbaspirillum rubrisubalbicans</i> (Christopher & Edgerton) Baldani et al.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Leifsonia xyli</i> subsp. cynodontis	CABI, 2013							Not known	No	(CABI, 2013)
<i>Pantoea ananatis</i> pv. <i>ananatis</i> (Serrano) Mergaert et al.	CABI, 2013				CABI, 2013			Not known	No	No evidence of seed transmission in <i>Zea mays</i> (CABI, 2013)
<i>Pectobacterium atrosepticum</i> (van Hall) Gardan et al.	CABI, 2013							CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> (Jones) Hauben et al.					CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
<i>Pseudomonas syringae</i> van Hall	CABI, 2013				CABI, 2013			Burgess et al., 2008	No	Host status unknown (CABI, 2013)
<i>Pseudomonas syringae</i> pv. <i>coronafaciens</i> (Elliott) Young et al.	[AK, AR, MN, WI] (CABI, 2013)			[AK, AR, MN, WI] (CABI, 2013)				Not known	Yes	Seed borne, not seed transmitted (CABI, 2013)
<i>Xanthomonas</i>	[LA, TX] (CABI, 2013)					CABI, 2013	CABI, 2013	CABI, 2013	No	Foliage infecting pathogen (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
albilineans (Ashby) Dowson										
<i>Xanthomonas</i> <i>oryzae</i> pv. <i>oryzae</i> (Ishiyama) Swings et al.		CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Xanthomonas</i> <i>vasicola</i> pv. <i>holcicola</i> (Elliott) Vauterin et al.	CABI, 2013					CABI, 2013		Not known	No	Foliage infecting pathogen (CABI, 2013)
<i>Xylella fastidiosa</i> (Wells et al., 1987)		CABI, 2013		CABI, 2013			CABI, 2013	Not known	No	Not seed transmitted (CABI, 2013)
Fungi										
<i>Albonectria</i> <i>rigidiuscula</i> (Berk. & Broome) Rossman & Samuels					CABI, 2013			Burgess et al., 2008	Yes	Seed transmitted (CABI, 2013)
<i>Alternaria</i> <i>brassicae</i> (Berk.) Sacc	CABI, 2013							CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Aspergillus flavus</i> Link	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Aspergillus niger</i> Tiegh	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Athelia rolfsii</i> (Curzi) C. C. Tu & Kimbr	CABI, 2013	CABI, 2013			CABI, 2013			CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Bipolaris sacchari</i> (E. J. Butler) Shoemaker	CABI, 2013							CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Blumeria graminis</i> (DC.) Speer			CABI, 2013	CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Ceratocystis paradoxa</i> (Dade) C. Moreau	CABI, 2013							CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Cercospora sorghi</i> Ellis & Everh.	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Cercospora zeae-maydis</i> Tehon & E.Y.Daniels	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Choanephora cucurbitarum</i> (Berk. & Ravenel) Thaxt.	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Claviceps fusiformis</i> Loveless						[TX] (CABI, 2013)		Not known	Yes	Infected seed is not viable, but sclerotia can be present as contaminant in a seed lot
<i>Claviceps purpurea</i> (Fr.) Tul.		CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013		Not known	No	Infected seed is not viable, but sclerotia can be present as contaminant in a seed lot
<i>Cochliobolus carbonum</i> Nelson	CABI, 2013	CABI, 2013			CABI, 2013			Not known	No	Seedborne, seed transmitted unknown (CABI, 2013)
<i>Cochliobolus heterostrophus</i> (Drechsler) Drechsler	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Seedborne, seed transmitted unknown (CABI, 2013)
<i>Cochliobolus lunatus</i> R.R. Nelson & Haasis	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Cochliobolus miyabeanus</i> (Ito & Kurib.) Drechsler ex Dastur					CABI, 2013	CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Caulophilus oryzae</i> (Gyllenhal)	CABI, 2013					CABI, 2013		Not known	Yes	This is a pest of stored grain and does not infest seeds in the field. Proper

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
										storage of harvested seeds may be sufficient to prevent infestation with this weevil (CABI, 2013).
<i>Cochliobolus sativus</i> (S. Ito & Kurib.) Drechsler ex Dastur	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013		Minh et al., 1997	Yes	Seed transmitted (CABI, 2013)
<i>Bipolaris sacchari</i> (E. J. Butler) Shoemaker	CABI, 2013							CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Erysiphe cruciferarum</i> Opiz ex L. Junell	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Fusarium oxysporum</i> Schlechtendahl	CABI, 2013				CABI, 2013			Not known	No	Unknown (CABI, 2013)
<i>Fusarium sporotrichioides</i> Sherb.	CABI, 2013			CABI, 2013				Not known	Yes	Seed transmission not reported in corn (CABI, 2013)
<i>Gaeumannomyces graminis</i> var. <i>graminis</i> (Sacc.) v. Arx & Olivier		CABI, 2013			CABI, 2013			Not known	No	Seed transmission not recorded (CABI, 2013)
<i>Gibberella fujikuroi</i> var. <i>fujikuroi</i> (Sawada) Wollenw	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Gibberella zeae</i> (Schwein.) Petch	CABI, 2013				CABI, 2013	CABI, 2013		RBG and Domain Trust, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Gloeocercospora sorghi</i> Bain & Edgerton ex Deighton	CABI, 2013	CABI, 2013						Not known	No	Seed transmission reported in <i>Sorghum</i> (CABI, 2013)
<i>Haematonectria</i>	CABI, 2013				CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>haematococca</i> (Berk. & Broome) Samuels & Rossman										
<i>Kabatiella zeae</i> Narita & Y. Hirats	CABI, 2013							Not known	No	Seed transmitted not recorded (CABI, 2013)
<i>Khuskia oryzae</i> Huds.	CABI, 2013				CABI, 2013			Not known	Yes	Not seed transmitted (CABI, 2013)
<i>Lasiodiplodia</i> <i>theobromae</i> (Pat.) Griffiths & Maubl.	CABI, 2013				CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Macrophomina</i> <i>phaseolina</i> (Tassi) Goid	CABI, 2013				CABI, 2013			Not known	Yes	Not seed transmitted (CABI, 2013)
<i>Magnaporthe</i> <i>grisea</i> (Hebert) Barr				CABI, 2013	CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Magnaporthe</i> <i>salvinii</i> (Catt.) R.A. Krause & R.K.Webster					CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Monographella</i> <i>albescens</i> (Thümen) Parkinson, Sivanesan & C.Booth					CABI, 2013			CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Mycosphaerella</i> <i>zeae-maydis</i> D.M.Mukunya & C.W.Boothroyd	[WI] (CABI, 2013)							Not known	No	Not seed transmitted (CABI, 2013)
<i>Mycovellosiella</i> <i>oryzae</i> (white leaf					CABI, 2013			Not known	No	Foliage pathogen (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
streak)										
<i>Neotyphodium coenophialum</i> (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin			CABI, 2013					Not known	Yes	Seed transmitted (CABI, 2013). Endophyte
<i>Oculimacula yallundae</i> (Wallwork & Spooner) Crous & W. Gams			[ID, NY, OR, WA] CABI, 2013	[ID, NY, OR, WA] CABI, 2013				Not known	No	Not seed transmitted (CABI, 2013)
<i>Penicillium digitatum</i> (Pers.) Sacc.	CABI, 2013				CABI, 2013			CABI, 2013	No	Unknown (CABI, 2013)
<i>Penicillium expansum</i> Link	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Penicillium expansum</i> Link	CABI, 2013							Not known	No	Unknown (CABI, 2013)
<i>Peronosclerospora sorghi</i> W. Weston & Uppal) C.G. Shaw	CABI, 2013					CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Mycosphaerella zeae-maydis</i> D.M.Mukunya & C.W.Boothroyd	[WI] (CABI, 2013)							Not known	No	Not seed transmitted (CABI, 2013)
<i>Phoma pinodella</i> (L.K. Jones) Morgan-Jones & K.B. Burch					CABI, 2013			Not known	Yes	Seed transmitted (CABI, 2013). Unconfirmed report on rice
<i>Phyllachora maydis</i> Maubl.	CABI, 2013	CABI, 2013						Not known	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Physoderma maydis</i> (Miyabe) Miyabe	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Phytophthora</i> <i>nicotianae</i> (black shank)	CABI, 2013							CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Podosphaera</i> <i>xanthii</i> (Castagne) U. Braun & Shishkoff					CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
<i>Polymyxa graminis</i> Ledingham		CABI, 2013			CABI, 2013	CABI, 2013		Not known	No	Soil-borne pathogen (CABI, 2013)
<i>Puccinia coronata</i> Corda			CABI, 2013	CABI, 2013				Not known	No	Seed transmitted (CABI, 2013)
<i>Puccinia graminis</i>			CABI, 2013	CABI, 2013				Not known	No	Seed transmitted (CABI, 2013)
<i>Puccinia polysora</i> Underw	CABI, 2013							CABI, 2013	No	Foliage pathogen (CABI, 2013)
<i>Puccinia purpurea</i> Cooke	CABI, 2013							CABI, 2013	No	Foliage pathogen (CABI, 2013)
<i>Puccinia sorghi</i> Schwein	CABI, 2013							Not known	No	Foliage pathogen (CABI, 2013)
<i>Puccinia substriata</i> var. <i>substriata</i> Ellis & Barthol.						CABI, 2013	CABI, 2013	Not known	No	Foliage pathogen (CABI, 2013)
<i>Puccinia triticina</i> Erikss. & Henn.				CABI, 2013				Not known	No	Foliage pathogen (CABI, 2013)
<i>Pyrenophora teres</i> Drechsler	CABI, 2013							Not known	No	Host status unknown (CABI, 2013)
<i>Pythium</i> <i>aphanidermatum</i> (Edson) Fitzp	CABI, 2013							CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Pythium</i> <i>arrhenomanes</i> Drechsler	CABI, 2013			CABI, 2013	CABI, 2013			Not known	No	Soil borne pathogen (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>Pythium debaryanum</i> Hesse	CABI, 2013							Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium graminicola</i> Subram.	CABI, 2013				CABI, 2013			Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium irregulare</i> Buisman	CABI, 2013				CABI, 2013			CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Pythium myriotylum</i> Drechsler	CABI, 2013				CABI, 2013			Not known	No	Soil borne pathogen (CABI, 2013)
<i>Pythium splendens</i> Braun	CABI, 2013							CABI, 2013	No	Soil borne pathogen (CABI, 2013)
<i>Rosellinia necatrix</i> Prill.	CABI, 2013							Not known	No	Soil borne pathogen (CABI, 2013)
<i>Sarocladium oryzae</i> (Sawada) W. Gams & D. Hawksw.	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	No	Seed borne, not seed transmitted (CABI, 2013)
<i>Sclerophthora macrospora</i> (Sacc.) Thirum., C.G. Shaw & Naras.	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013		Not known	Yes	Seed borne, seed transmitted unknown (CABI, 2013)
<i>Sclerospora graminicola</i> (Sacc.) J. Schröt.	CABI, 2013					CABI, 2013		Not known	Yes	Seed borne, seed transmitted unknown (CABI, 2013)
<i>Setosphaeria turcica</i> (Luttr.) K. J. Leonard & Suggs	CABI, 2013					CABI, 2013	CABI, 2013	CABI, 2013	Yes	Seed borne, seed transmitted unknown (CABI, 2013)
<i>Sphacelotheca reiliana</i> (J. G. Kühn) Clinton	CABI, 2013							Not known	Yes	Seed borne, not seed transmitted (CABI, 2013)
<i>Sphaerulina oryzina</i> Hara					CABI, 2013	CABI, 2013		CABI, 2013	Yes	Seed borne, seed transmitted unknown (CABI, 2013)
<i>Sporisorium sorghi</i>		CABI, 2013						CABI, 2013	Yes	Seed transmitted (CABI,

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Ehrenb. ex Link										2013)
<i>Thanatephorus cucumeris</i> (Frank) Donk	CABI, 2013			CABI, 2013	CABI, 2013			CABI, 2013	Yes	Seed borne, seed transmitted unknown (CABI, 2013)
<i>Tilletia barclayana</i> (Bref.) Sacc. & P. Syd.					CABI, 2013	CABI, 2013		CABI, 2013	Yes	Seed transmitted (CABI, 2013)
<i>Ustilaginoidea virens</i> (Cke.) Tak.	CABI, 2013				CABI, 2013	CABI, 2013		CABI, 2013	Yes	Seed borne, not seed transmitted (CABI, 2013)
<i>Ustilago zeae</i> (Schwein.) Unger	CABI, 2013							CABI, 2013	Yes	Seed borne, not seed transmitted (CABI, 2013)
<i>Verticillium albo-atrum</i> Reinke & Berthold					Burgess et al., 2008			Regulated (MARD, 2005)	Yes	Seed transmission unknown (CABI, 2013)
<i>Verticillium dahliae</i> Kleb.				CABI, 2013				Not known	Yes	Seed transmission unknown (CABI, 2013)
Nematodes										
<i>Aphelenchoides besseyi</i> Christie	CABI, 2013				CABI, 2013			CABI, 2013	No	Foliage nematode, seed transmitted on rice (CABI, 2013)
<i>Belonolaimus longicaudatus</i> Rau	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013			CABI, 2013	Not known	No	Root nematode (CABI, 2013)
<i>Ditylenchus destructor</i> Thorne	CABI, 2013							Regulated (MARD, 2005)	No	Foliage nematode (CABI, 2013)
<i>Ditylenchus dipsaci</i> (Kühn) Filip'ev	CABI, 2013							Regulated (MARD, 2005)	No	Foliage nematode (CABI, 2013)
<i>Helicotylenchus dihystra</i> (Cobb) Sher	CABI, 2013	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Helicotylenchus multicinctus</i> (Cobb) Golden	CABI, 2013	CABI, 2013			CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Helicotylenchus</i>	CABI, 2013				CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>pseudorobustus</i> (Steiner) Golden										
<i>Hemicriconemoides</i> <i>mangiferae</i> Siddiqi	CABI, 2013							CABI, 2013	No	Root nematode (CABI, 2013)
<i>Heterodera avenae</i> Wollenweber	[ID, OR] (CABI, 2013)							Not known	No	Root nematode (CABI, 2013); US regulated pest (PestID, 2013)
<i>Heterodera</i> <i>schachtii</i> A. Schmidt,	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Heterodera zeae</i> Koshy et al.	[MD, VA] (CABI, 2013)				CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Hirschmanniella</i> <i>oryzae</i> (van Breda de Haan) Luc&Goodey	[AR, FL] (CABI, 2013)				[AR, FL] (CABI,		[AR, FL] (CABI,	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Hirschmanniella</i> <i>spinicaudata</i> (Schuurmans Stekhoven) Luc & Goodey					[CA] CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Longidorus</i> <i>elongatus</i> (de Man) Micoletzky				CABI, 2013				CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne</i> <i>arenaria</i> (Neal) Chitwood	CABI, 2013		CABI, 2013	CABI, 2013	CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Meloidogyne</i> <i>chitwoodi</i> Golden, O'Bannon, Santo & Finley	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Meloidogyne</i> <i>graminicola</i> Golden	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	No	Root nematode (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
& Birchfield										
<i>Meloidogyne incognita</i> (Kofoed & White) Chitwood	CABI, 2013				CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Meloidogyne javanica</i> (sugarcane eelworm)					CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Paratrichodorus minor</i> (Colbran) Siddiqi	CABI, 2013							CABI, 2013	No	Root nematode (CABI, 2013)
<i>Paratrichodorus porosus</i> (Allen) Siddiqi	CABI, 2013							CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus brachyurus</i> Godfrey) Filipjev & Schuurmans Stekhoven					CABI, 2013			CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus coffeae</i> (Zimmermann) Filipjev & Schuurmans Stekhoven	[AR, CA, FL, HI, SC] (CABI, 2013)							CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus loosi</i> Loof	CABI, 2013					CABI, 2013	CABI, 2013	Not known	No	Root nematode (CABI, 2013)
<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans Stekhoven	CABI, 2013			CABI, 2013	CABI, 2013	CABI, 2013		CABI, 2013	No	Root nematode (CABI, 2013)
<i>Pratylenchus thornei</i> Sher &	CABI, 2013							Not known	No	Root nematode (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Allen										
<i>Pratylenchus</i> <i>vulnus</i> Allen & Jensen	CABI, 2013							Not known	No	Root nematode (CABI, 2013)
<i>Pratylenchus zeae</i> Graham	CABI, 2013	CABI, 2013			CABI, 2013	CABI, 2013		CABI, 2013	No	Root nematode (CABI, 2013)
<i>Punctodera</i> <i>punctata</i> (Thorne) Mulvey & Stone			CABI, 2013	CABI, 2013				Not known	No	Root nematode (CABI, 2013)
<i>Radopholus similis</i> (Cobb) Thorne	CABI, 2013							Regulated (MARD, 2005)	No	Root nematode (CABI, 2013)
<i>Rotylenchulus</i> <i>parvus</i> (Williams) Sher	CABI, 2013	CABI, 2013						Not known	No	Root nematode (CABI, 2013)
<i>Rotylenchulus</i> <i>reniformis</i> Linford & Oliveira	Restricted (CABI, 2013)						Restricted (CABI, 2013)	CABI, 2013	No	Root nematode (CABI, 2013)
<i>Scutellonema</i> <i>brachyurus</i> Steiner. Andrássy	CABI, 2013				CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Trichodorus</i> <i>viruliferus</i> Hooper	[FL] (CABI, 2013)							Not known	No	Root nematode (CABI, 2013)
<i>Tylenchorhynchus</i> <i>acutus</i> Allen		CABI, 2013						Not known	No	Root nematode (CABI, 2013)
<i>Tylenchorhynchus</i> <i>annulatus</i> (Cassidy) Golden					CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Tylenchorhynchus</i> <i>claytoni</i> Steiner	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Xiphinema</i> <i>americanum</i> Cobb	CABI, 2013	CABI, 2013			CABI, 2013			Not known	No	Root nematode (CABI, 2013)
<i>Zygotylenchus</i> <i>guevarai</i> (Tobar	[CA] (CABI, 2013)							Not known	No	Root nematode (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
Jiménez) Braun & Loof										
Phytoplasmas										
<i>Aster yellows phytoplasma</i> group	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Maize bushy stunt phytoplasma</i>	CABI, 2013							Not known	No	Vector transmitted (CABI, 2013)
<i>Spiroplasma kunkelii</i> Whitcomb, Chen et al.,	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Spiroplasma citri</i>					CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
Viruses										
<i>Barley yellow dwarf viruses</i>	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	CABI, 2013	Not known	No	Vector transmitted (CABI, 2013)
<i>Cucumber mosaic virus</i>	CABI, 2013							CABI, 2013	No	Not reported in <i>Zea mays</i> (CABI, 2013)
<i>High plains virus</i>	CABI, 2013							Not known	Yes	Not seed transmitted (CABI, 2014)
<i>Maize chlorotic dwarf virus</i>	CABI, 2013	CABI, 2013						Not known	No	Vector transmitted (CABI, 2013)
<i>Maize mosaic virus</i>	[AL, FL, HI] (CABI, 2013)							Not known	No	Vector transmitted (CABI, 2013)
<i>Maize rayado fino virus</i>	CABI, 2013							Not known	No	Vector transmitted (CABI, 2013)
<i>Maize stripe virus</i>	[FL] CABI, 2013				[FL] CABI, 2013			Not known	No	Not seed transmitted (CABI, 2013)
<i>Maize streak virus</i>	CABI, 2013							Not known	No	Not seed transmitted (CABI, 2013)
<i>Rice hoja blanca virus</i>					CABI, 2013			Regulated (MARD, 2005)	No	Not seed transmitted (CABI, 2013)
<i>Sweet potato feathery mottle virus</i>	CABI, 2013							CABI, 2013	No	Not seed transmitted (CABI, 2013)
<i>Sugarcane</i>						[HI, LA] CABI, 2013		CABI, 2013	No	Not seed transmitted (CABI, 2013)

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Pest	<i>Zea mays</i>	<i>Cynodon</i> spp.	<i>Festuca</i> spp.	<i>Lolium</i> spp.	<i>Oryza</i> spp.	<i>Panicum</i> spp.	<i>Paspalum</i> spp.	Vietnam	Seed	Comments
<i>chlorotic streak virus</i>										
<i>Sugarcane mosaic virus</i>	CABI, 2013							CABI, 2013	Yes	Seed borne, seed transmitted (CABI, 2013)