

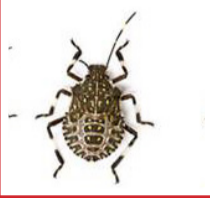


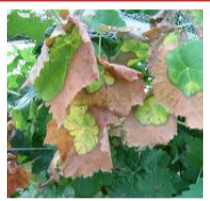


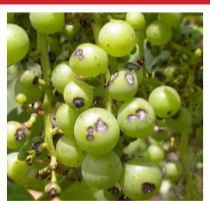












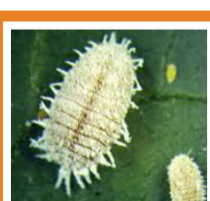

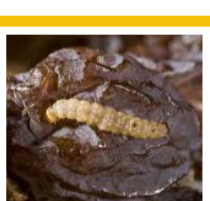



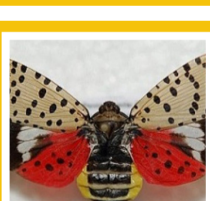



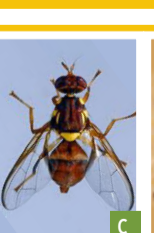



most **un**wanted

BIOSECURITY IN THE VINEYARD : BACTERIA  FUNGI  INSECT  PHYTOPLASMA 

<p>BROWN MARMORATED STINK BUG HALYOMORPHA HALYS</p> 	 	<p>The number one biosecurity risk to the wine industry. Hitchhiking insect pest with high likelihood of entry into New Zealand. Feeding damages fruit, encourages bunches to fall and encourages fungal growth. Emit a foul-smelling odour similar to rotten coriander or sweaty socks when threatened, which can taint grape juice at harvest. Never been eradicated anywhere in the world.</p>	<p>HIGHEST THREAT</p>
<p>PIERCE'S DISEASE & GLASSY WING SHARPSHOOTER XYLELLA FASTIDIOSA & HOMALODISCA VITRIPENNIS</p>  	 	<p>Bacterial disease which could be imported on infected plant material or insect vector. Pierce's Disease eventually blocks the xylem tissue and is fatal to infected grapevines. Symptoms include leaf scorch which is commonly confused with water stress. Glassy wing sharpshooter - a key vector currently present in the Cook Islands and Tahiti. Low risk of entry but potentially severe consequences.</p>	
<p>BLACK ROT GUIGNARDIA BIDWELLII</p> 	 	<p>This fungal disease attacks grapevines during hot and humid weather. Infection of the fruit is the most serious phase of the disease and may result in substantial economic loss. Infected berries first appear light or chocolate brown, but quickly turn darker brown and shrivel into hard black raisin-like bodies. The most likely import pathway is infected plant material or soil. Overseas a combination of vineyard hygiene practices and chemical control are used to manage the disease.</p>	
<p>FLAVESCENCE DOREE FLAVESCENCE DORÉE PHYTOPLASMA</p> 	 	<p>A phytoplasma which could be imported through infected plant material or insect vector. Infection results in major yield reductions and reduced wine quality - meaning infected areas may no longer be viable. Limited management options available. Low likelihood of entry but severe consequences.</p>	<p>THREAT</p>
<p>BOIS NOIR (BLACK WOOD) NOIR PHYTOPLASMA</p> 	 	<p>A phytoplasma which could be imported through infected plant material or insect vector. Infection results in a reduction of both yield and wine quality. Limited management options available. Low likelihood of entry but potentially significant consequences.</p>	
<p>SPOTTED WING DROSOPHILA DROSOPHILA SUZUKII</p> 	 	<p>An insect pest which could enter New Zealand through the import of an infected host product. Causes oviposition damage and increased rate of fungal infection. Fast rate of reproduction and lack of surveillance technology make eradication unlikely.</p>	<p>SIGNIFICANT THREAT</p>
<p>VINE MEALYBUG PLANNOCOCUS FICUS</p> 	 	<p>Vine mealybugs are slightly smaller than Pseudococcus mealybugs and have a soft, oval, flat, distinctly segmented body that is covered with a white, mealy wax that extends into spines. Vine mealybug can transmit grapevine leafroll-associated viruses and produce honeydew that acts as a substrate for black sooty mould. Vine mealybug could be introduced through infected plant material or vineyard machinery. Chemical and biological control tools are available to manage populations.</p>	
<p>EUROPEAN GRAPEVINE MOTH LOBESIA BOTRANA</p> 	 	<p>Insect pest which could be introduced through the import of infected fruit or host material. Larvae feed on flowers and ripening fruit, pulping them and exposing them to secondary infection. Relatively low risk of entry. Chemical and biological control options are available.</p>	<p>THREAT</p>
<p>SPOTTED LANTERNFLY LYCORMA DELICATULA</p> 	 	<p>An invasive insect pest which is most likely to enter New Zealand as egg masses on imported commodities or shipping containers. Spotted lanternfly feed on grapevines and produce honeydew, leading to outbreaks of black sooty mould, vine weakening and production losses. It is a highly mobile pest and congregates in large numbers. Sensitive to contact insecticides.</p>	
<p>FRUIT FLY ANASTREPHA FRATERCULUS, CERATITIS CAPITATA, CERATITIS ROSA, BACTROCERA TRYONI</p> 	   	<p>An insect pest which could enter New Zealand through the import of an infected host product. Can lay eggs in ripening fruit. Larvae pulp fruit from the inside. Also increases risk of fungal infection. Risk of entry is relatively high although effective surveillance and control tools are available.</p>	