

Bois noir



EXOTIC PEST – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

What is bois noir?

Bois noir (black wood) is a yellows-type disease of grapevine caused by a phytoplasma (*Candidatus Phytoplasma solani*). This disease was first reported in France in 1961 and has been found to affect cultivated grapevines in several European countries and the eastern Mediterranean region. The pathogen affects the inner layer of the bark and other parts of the plant. Bois noir accounts for serious crop losses in grapes, causing leaf and vein discoloration, stunted growth, shrivelled fruit and irregular ripening of wood. Bois noir has a broad host range and currently there are few effective management strategies for this disease.

What does it look like?

Bois noir causes infected plants to lose vigour and become stunted with short internodal spacing. The leaves, including leaf veins become discoloured and blotched. In red grape varieties, leaves appear red while in white varieties, leaves and veins appear chlorotic (yellow) and necrotic (dead). Leaves also have a down curling appearance on the blade forming a triangular shape. The berries are shrunk, shrivelled and flowers appear dry in both red and white varieties.

What can it be confused with?

In Australia, the disease can be confused with Australian grapevine yellows (*Candidatus Phytoplasma australiense*), and grapevine leafroll viruses. Grapevine leafroll virus causes leaves to turn red to purple or yellow with veins remaining green, while bois noir causes red, yellow or brown discoloration to the entire leaf (including veins). Overseas, bois noir can be confused with flavescente dorée (*Grapevine flavescente dorée phytoplasma*) and black rot (*Guignardia bidwellii*). Bois noir and flavescente dorée cannot be visually distinguished and require specialist diagnosis. Black rot blackens the berries while bois noir causes them to shrink and shrivel.



Leaf symptoms of bois noir including down-curling of leaf blade in triangular or trapezoidal shape and leaf yellowing

Wolfgang Schweigkofler, Dominican University of California



Grapevine infected with bois noir. Note the red discolouration and blotches on leaves

Wolfgang Schweigkofler, Dominican University of California

What should I look for?

Look for discoloured leaves (red or yellow), stunted fruit growth, short internodal spacing, browning, irregular ripening of stems with a woody appearance, and shrivelled or shrunk berries. Look also for the presence of planthopper insect infestation in your vines as planthoppers can spread disease.

How does it spread?

Bois noir is spread from plant to plant by insect vectors including planthoppers (such as the exotic species *Hyalesthes obsoletus*, *Anaceratagallia ribauti* and *Reptalus panzeri*). It is not known if planthoppers in Australia can spread bois noir. Bois noir is also readily transmitted by grafting with infected plant material.

Where is it now?

The pathogen was first reported affecting grapevine in France. Since then it has been reported in several European and Asian countries. It has not been reported in Australia.

How can I protect my vineyard from bois noir?

You can protect your farm from bois noir by regularly checking your crop for the presence of new pests, and closely examining poorly performing plants for signs of leaf and vein discoloration, shrivelled berries, woody appearance on stems and planthoppers. Only source planting material from reputable and accredited nurseries and check for signs of disease before transferring any new planting material to the field.

If you see anything unusual, call the **Exotic Plant Pest Hotline** on **1800 084 881**.



Grapevine infected with bois noir showing uneven lignification of the stem

Wolfgang Schweigkofler, Dominican University of California



Bois noir infection causing shrivelled berries, stunted fruit growth and dry woody stem

Wolfgang Schweigkofler, Dominican University of California

**IF YOU SEE ANYTHING UNUSUAL,
CALL THE EXOTIC PLANT PEST HOTLINE**

1800 084 881

DISCLAIMER: The material in this publication is for general information only and no person should act, or fail to act on the basis of this material without first obtaining professional advice. Plant Health Australia and all persons acting for Plant Health Australia expressly disclaim liability with respect to anything done in reliance on this publication.