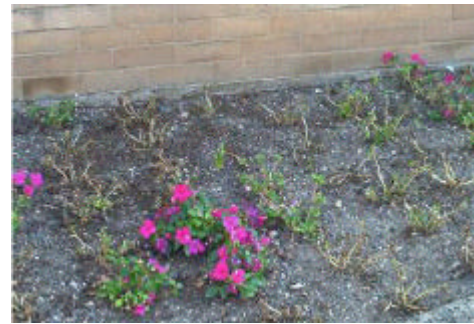


Downy Mildew of Impatiens caused by *Plasmopara obducens*



Above: Symptoms of Downy Mildew of impatiens—from left dense or sparse sporulation on underside of leaves, mottled leaves and plants with few or no flowers

What is it?

Downy mildew of *Impatiens* species and cultivars has been detected for the first time in Australia. The disease is caused by the fungus *Plasmopara obducens*.

The disease can cause stunting, premature leaf fall, poor flowering and in some cases even complete collapse and death. It has previously been found in North America, Asia and Europe.

Significance to Australia

In England and the USA, recent outbreaks in 2003/04 have been very damaging and have caused losses of up to 80-90%. These were associated with the introduction of planting material from Central America. In the USA, epidemics of the disease are reported to be explosive, destructive and costly.

The disease was detected in Victoria in October 2006 and losses have been similar to reports from overseas. Impatiens represent around 10% of the bedding plant sector in Australia. The disease has subsequently been found in New South Wales and Queensland. The other states are currently undertaking surveillance.

Where did it come from?

The entry pathway of the outbreak is not known. The disease can be spread over relatively short distances by water splash and wind, but long distance dispersal is likely to occur via infected or contaminated planting material and possibly seed. As the disease can remain latent for significant periods of time after infection, it may have been introduced on apparently healthy material which only showed symptoms following favourable conditions.

Symptoms

The first symptoms are usually pale green leaves. The underside of affected leaves may show a sparse or dense white layer covering the entire leaf surface. Affected leaves then yellow and may fall prematurely, or they may collapse. Plants can be stunted and produce small pale leaves, with few or no flower production. Early symptoms of downy mildew infection may be difficult to detect as the characteristic white downy growth is restricted to the underside of leaves, and leaf symptoms may be confused with nutritional deficiencies or mite damage.

Spread

Spread over short distances is via water splash and over longer distances by air currents. The pathogen can be spread over long distances through movement of infected cuttings and plants before any symptoms have appeared. Similarly, some reports indicate that the pathogen can survive in seed, which, when sown, produces systemically infected plants. Such plants may have a long latent period before symptoms are seen.

Management

Management should include:

- Disease exclusion
- Monitoring for disease symptoms
- Hygiene
- Cultural practices especially humidity control
- Fungicide treatments

Hosts

The host range apparently includes only cultivated and wild species of impatiens. In Victoria, disease has been found in both single and double flowered commercial types. Overseas records indicate that *I. walleriana*, *I. balsamina* and *I. noli-tangere* are hosts. There are also unconfirmed reports that New Guinea hybrids (*Impatiens x hawkeri*) are hosts.

Contact

The public are encouraged to assist in developing a better understanding of the distribution of this fungus in Australia.

If you suspect you have seen impatiens affected by *Plasmopara obducens*, contact your local department of agriculture by calling the national free call hotline on 1800 084 881.

References

Lane CR *et al* (2005) First report of *Impatiens* downy mildew (*Plasmopara obducens*) in the UK. *Plant Pathology* 54, 243.

Hausbeck M (2004) <http://www.plantpathology.msu.edu/labs/hausbeck/hausbeckDownyMildew.htm>



Above: Yellowing, stunting and premature leaf fall on a tray of bedding impatiens.



Above: Few distinct symptoms of Downy Mildew of impatiens

To Report Suspect Detections or for Market Access Queries
Contact the Exotic Plant Pest Hotline

1800 084 881

For Further Information
Visit the Plant Standards Web Page
www.dpi.vic.gov.au/psb