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## Septoria Tritici Blotch

Historically Septoria tritici blotch was an important disease of wheat in Victoria with individual crop losses of up to 38%. However, with the widespread adoption of partially resistant wheat varieties since the early 1980's Septoria tritici blotch has become a minor disease in Victoria. If susceptible varieties are widely grown again in Victoria this disease will become a problem.

### Symptoms

The fungus causes pale grey to dark brown blotches on the leaves and, to a lesser extent, the stems and heads. When the disease is severe, entire leaves may be affected by the disease lesions (Figure 1).

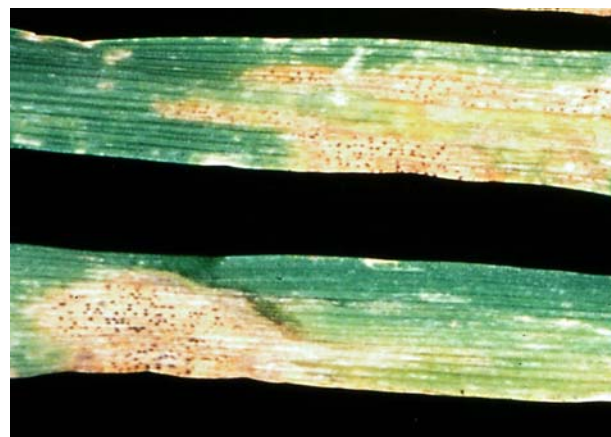
The diagnostic feature of Septoria tritici blotch is the presence of black fruiting bodies (pycnidia) within the blotches. These tiny black spots give the blotches a characteristic speckled appearance (Figure 2). In the absence of the black fruiting bodies, which are visible to the naked eye, the blotching may be caused by yellow leaf spot or a nutritional disorder such as aluminum toxicity. The only other disease that has black fruiting bodies within the blotches is Septoria nodorum blotch, but this disease is less common in Victoria.



**Figure 1.** Septoria tritici blotch can cause complete death of leaves.

### Economic importance

Because the majority of varieties currently grown in Victoria have partial resistance to Septoria tritici losses from this disease are now insignificant. However, if susceptible and very susceptible varieties are grown this disease is likely to cause annual average losses of up to 20% with individual crop losses much higher.



**Figure 2.** The presence of black fruiting bodies within the blotches is a diagnostic feature of Septoria tritici blotch. The only other disease that is similar, is Septoria nodorum blotch.

### Disease cycle

Septoria tritici blotch, also called septoria leaf spot or speckled leaf blotch of wheat is caused by the fungus *Mycosphaerella graminicola*.

Septoria tritici blotch survives from one season to the next on stubble. Following rains or heavy dew in the late autumn and early winter wind borne spores (ascospores) are released from fruiting bodies (perithecia) embedded in the stubble of previously infected plants. These spores can be spread over large distances.

These early ascospore infections cause blotches on the leaves. Within these blotches a second type of fruiting body, pycnidia, are produced. Spores ooze from pycnidia when the leaf surface is wet and are dispersed by splash to other leaves,

where they can cause new infections. Because this phase of disease development depends on the rain splash of spores, septoria will be most severe in seasons of above-average spring rainfall.

A combination of wind and rain provides the most favourable conditions for spread of the disease within crops.

## Management

### Resistant Varieties

The majority of commercially grown varieties now have partial resistance (ie they are moderately susceptible) to septoria tritici blotch. This resistance has to date been durable and sufficient to effectively control this disease in Victoria.

It is important to avoid varieties very susceptible to this disease as they will build up inoculum levels and cause yield loss in that variety and in adjacent moderately susceptible wheat crops. For information on the resistance status of varieties consult a current Cereal Disease Guide.

### Cultural Practices

Following a septoria outbreak destroying stubble by burning or cultivation will reduce the number of ascospores available to infect the new season's crop. Such practices will have more effect if practiced on a district basis. This practice is not, however, practicable in light soil areas where stubble must be kept to prevent erosion.

### Fungicides

Some seed applied fungicides can help suppress the early septoria infection and should be used in areas where Septoria tritici blotch is known to occur.

Effective foliar fungicide sprays are available if necessary. It is important to correctly identify Septoria tritici blotch before spraying with a fungicide (see Symptoms) as nutritional disorders such as aluminium toxicity can be confused with Septoria tritici blotch.

## Further References

[www.dpi.vic.gov.au/notes](http://www.dpi.vic.gov.au/notes) (click on Crops & Pastures, Cereals)

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## Acknowledgements

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It was reviewed:

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