



Fig. 1. *Cercospora zonata*; sporulating leaf lesion exhibited fascicles of conidiophores (a); symptoms on faba bean seedlings (b); and defoliation in susceptible faba beans caused by severe infection of *C. zonata* (c).

Common Name: Cercospora leaf spot

Pathogen: *Cercospora zonata*

Classification: Fungi Imperfecti belonging to the order Hyphomycetales

Cercospora leaf spot (Fig 1.) is a common fungal disease of faba bean worldwide but its effect on yield is not well understood. Since 2004, there has been a noticeable increase in the prevalence and severity of this disease in commercial crops and research trials in southern Australia. Until this time, the disease had been most severe in faba bean crops in the south-east of South Australia. The emergence of this disease is under investigation to determine the significance it has to the faba bean industry in southern Australia.

Host Range:

Cercospora species are a highly successful group of pathogens, with over 3,000 species listed, causing damaging leaf spot and blight diseases on a diversity of crop species worldwide. However, *C. zonata* is reported to have a relatively limited host range, confined to *Vicia* species which include *V. faba* (faba bean), *V. narbonensis* (narbon bean) and *V. sativa* (vetch).

Impact:

C. zonata mainly affects leaves, but may also affect stems and pods of faba beans. Lesions initially form on lower leaves of the seedling, early in the growing season, then expand resulting in severe blighting of the leaf. The disease spreads to upper foliage if conditions favour disease development. Severe infection can result in extensive defoliation of plants and lesions on pods. The impact on seed quality appears limited, but the effect on yield has shown to be in the magnitude of 5-10% in high disease pressure.

The symptoms of this disease can be easily confused with those of ascochyta leaf spot (*Ascochyta fabae*) or chocolate spot (*Botrytis fabae*). This has been causing some confusion in accurate diagnosis by growers and consultants.

Key Distinguishing Features:

The fruiting bodies of the fungus are normally observed on established leaf lesions in moist environments. They consist of minute bundles (fascicles) of conidiophores, in clusters of 3 to 12, emerging from the leaf surface. To the naked eye this can appear as a sparse grey or white furry covering.

Control:

All current commercial cultivars are susceptible to cercospora leaf spot and disease severity is strongly linked to close rotations of growing faba beans. Recent studies have shown that the most efficient strategies for fungicide control are 1 or 2 early applications of tebuconazole or carbendazim.

Further Reading:

- Kimber RBE, Davidson JA, Paull JG, Scott ES (2007). Epidemiological studies of *Cercospora* leaf spot in faba beans. *Proceedings 16th Australasian Plant Pathology Society Conference* (p. 91).
- Kimber RBE, Davidson JA, Paull JG, Scott ES (2007). *Cercospora* leaf spot in faba beans – impact on yield and response to fungicide application. *Proceedings 16th Australasian Plant Pathology Society Conference* (p. 117).
- Yu TF, 1947. *Cercospora* leaf spot of broad bean in China. *Phytopathology* **37**, 174-179.

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