

Fungicide Decision Worksheet for Managing Mycosphaerella Blight in Field Peas

Mycosphaerella (Ascochyta) blight is the most widespread and economically damaging foliar disease of field peas in Manitoba. Peas are the single host crop of Mycosphaerella and it is the main disease to be controlled by foliar fungicide. Fungicides also offer control or suppression of white mould, powdery mildew and rust, depending on the product. However, these diseases are less frequent and less severe in Manitoba-grown peas.

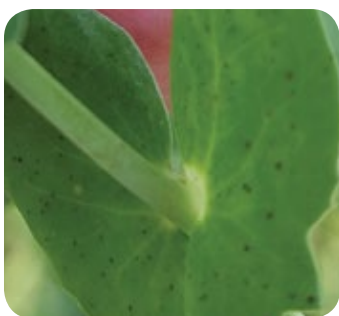
This pathogen can be stubble-, air-, soil- and seed-borne. Spores can travel long distances by air, meaning there is a disease risk even in fields where peas have not been grown previously.

Mycosphaerella infects the majority of pea crops each year. The impact of disease severity on yield will depend on how early the disease sets in and how quickly it progresses into the upper crop canopy. Early infections during the bloom to early/mid-pod stages (R2 to R3) cause the most damage if left unchecked.

Cool, wet conditions promote disease development. Symptoms first occur in the lower canopy as small, purplish-brown flecks or as large, brown lesions with a concentric ring pattern. If favourable conditions persist, lesions will expand, produce spores and disease will develop up the canopy. The risk of yield loss increases when symptoms progress above the bottom third of the plant canopy by the R2 stage. Monitor closely for any upward movement of symptoms within the crop.

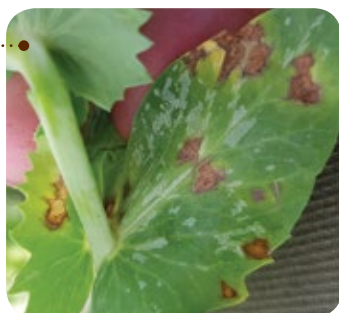
Scout for symptoms from V10 (10th true node) to R2 (beginning bloom) during mid-June to late July. Use this fungicide decision worksheet when scouting to determine if fungicide application is necessary.

Foliar symptoms develop as purplish-brown flecks (left) or as brown lesions with concentric rings (right). Disease progresses from the bottom of the plant up.



Bacterial blight (right) is commonly misidentified as Mycosphaerella blight.

Bacterial blight results in brown lesions with water-soaked edges. On leaves, lesions are angular and can become translucent. Fungicides will not control this disease.



Foliar fungicide application for control of Mycosphaerella should be made at R2 when one flower is open on most plants across the field. The goal is to achieve adequate fungicide coverage on leaves in the lower canopy. If disease symptoms are not yet present, it may be beneficial to delay fungicide application (e.g., in a dry year).

If symptoms spread into the mid to upper canopy and warm, humid weather persists, consider a second fungicide application 10 to 14 days later using a different mode of action. Once peas reach R4 (full pod), fungicide application is no longer recommended. At this stage, peas are within the 30-day pre-harvest interval of several products and disease is no longer expected to be yield-limiting.

	RISK FACTOR
Crop canopy	
• Thin – high weed pressure, low yield expectations	0
• Moderate – some weeds, possibly low yield	10
• Normal – about 8 pea plants/ft ² or 85/m ²	15
• Dense – more plants than normal, lush growth	30
Leaf wetness/humidity/dew at noon	
• None	0
• Low	10
• Moderate	20
• High	40
The five-day weather forecast	
• Dry	0
• Unpredictable	10
• Light showers	15
• Rain	20
Symptoms on pea plants	
• No visible symptoms	0
• Up to 20 percent of plants showing symptoms	10
• 20 to 50 percent of plants showing symptoms	15
• 50 to 100 percent of plants showing symptoms	20
TOTAL SCORE OF RISK FACTORS – If 65 or more a fungicide application is recommended.	

Source: K. J. Lopetinsky, Ag Research Division, AARD and S. Strydhorst, University of Alberta, Edmonton, Alberta