

Carrot sclerotinia monitoring

17 July 2019

Key points

- There are new apothecia this week in the Nottingham monitor crop, so airborne spore inoculum is likely to be present.
- While carrot plants are young and there is no senescent foliage, infection risk will be low. But there is evidence of spore inoculum and crop growth is rapid, so infection risk is likely to increase.

Actions

- **Crops should be monitored for for senescent foliage.**
- **Protectant fungicides are strongly advised ahead of canopy closure.**





Overview

This is the second report in 2019 for sclerotinia monitoring at two carrot crop sites, near Mansfield in Nottinghamshire and Herringswell in Suffolk. Some soil surfaces have dried out with the recent dry weather. But any rain or irrigation will encourage germination of sclerotia of the pathogen *Sclerotinia sclerotiorum*, with development of apothecia (fruiting bodies) that release airborne ascospores which infect carrot crops. Apothecial appearance is being monitored at the two sites for the onset and progress of sclerotial germination (see chart below). This week the first apothecia were recorded in the Nottinghamshire carrot crop, where there has been rain as well as irrigation. Apothecia have also been observed at the dryer Suffolk site, in wheat next to the monitor carrots. Sclerotinia spores will germinate and infect carrot plants via senescent foliage at the base of the plants first, especially where the this foliage comes into contact with the soil.

If sclerotinia symptoms have been seen in-field or on-farm in previous years, then the risk of sclerotinia infection developing in carrots is higher. The presence of other susceptible crops in the rotation will also increase the risk (e.g. winter or spring oilseed rape, peas, potatoes, green beans).

Weather conditions

The weather has been dry in the east, with an average of 4mm rain last week in the Eastern region, but only 0.2mm recorded in Suffolk. East Midlands had 7mm rain (8mm in Nottinghamshire). Where soils are dry, sclerotial germination may be delayed as the process requires moisture. The middle of this week is forecast to have rain in central Britain arriving from the west, some of it heavy, and more widespread rain is expected Friday 19 July but clearing over the weekend.

NOTTINGHAMSHIRE SITE	SUFFOLK SITE
Var Norfolk, drilled 30 April 2019	Var Nairobi, drilled week 24 June 2019
	
15 July, carrots at 7 leaf stage. Ground cover 60%+	16 July, carrots at 2-3 leaf stage
	
15 July, apothecia of <i>S. sclerotiorum</i> in monitor grid (grid cells are approx. 1.5 cm square)	16 July, carrots at 2-3 leaf stage. Ground cover <5%
<p>Comments</p> <p>Some of the sclerotia gave germinated this week and small apothecia are visible in some of the monitor grid cells (photo above). Germination onset is most likely influenced by several overnight showers last Friday and Saturday, and addition, irrigation applied the crop to keep the SMD relatively low. The crop canopy is growing fast and the first foliar fungicides are being applied to crops this week to provide protection. Aphid numbers are currently quite low, with obvious predators seen in the crop which will help keep aphid levels low.</p>	<p>Comments</p> <p>The carrots are only at 2-3 leaf stage and the cover barley is senescing. The soil surface is dry and no apothecia have appeared yet in the carrot field monitor grids. The current weather is dry and calm with temperatures of 18 – 20 °C, so unless there is rain, apothecia are unlikely to develop yet.</p>

Sclerotia Germination (refer to website map for exact locations)

Depots of sclerotia are being monitored near Mansfield, Nottinghamshire and Herringwell, Suffolk
Sclerotia collected from infected carrot crops the previous year were shallow-buried at both sites, in winter in nearby wheat crops and at drilling in the monitor carrot crops.

