Carrot *Sclerotinia* Monitoring

29 June 2016

Overview

This is the week 4 report. Plants are now at the 4-5 leaf stage at the Nottinghamshire site and at 2-3 leaf stage at the Cambridgeshire site. Further rain this week means that soils remain moist, so sclerotia of the pathogen *Sclerotinia sclerotiorum* will continue to germinate. Therefore, sclerotinia spores are likely to be in the air and can infect carrot crops, especially when there is canopy closure or dead leaves present. Sclerotial germination continues in winter cereals and other arable crops as well as in carrots. The current risk of sclerotinia infection in carrots is low while plants are small with no senescent leaves and ground cover is low.

Weather conditions and carrot growth stages

The weather last week was mainly wet but warm, with average rainfall 21 mm. The eastern region had the most rain (40 mm), whilst the Midlands and Yorkshire and Humber had the least (14-15 mm). Carrot crop growth progresses well, with the Nottinghamshire crop now at 4-5 leaves.

The weather is predicted to remain unsettled over the next week with sunny spells and showers. The changeable conditions are likely to continue into July with the most frequent rainfall across the northwest and driest conditions in the south.

Aphids are still present locally and occasional plants in some crops are now showing virus symptoms. Post-emergence weed treatments have been applied to many crops with good effects on the more susceptible weeds (and some crop effects on overlaps). However, volunteer potatoes are likely to be an issue in some fields. When potato plants get big enough to be well above the crop, weed wiping with glyphosate may be a suitable treatment option.

Regions

Cambridgeshire and East Anglia

Carrots var Bangor are growing well and now at the 2-3 leaf stage (Fig 1). There has been some further germination of sclerotia buried last winter in a nearby wheat crop, now at 37% (Fig 5), so sclerotia buried in the carrot field on 26 May are expected to start germinating now. Our sclerotia depots are indicative of the activity of sclerotia elsewhere in the region, both in crops drilled last autumn and those sown more recently.

Nottinghamshire and E. Midlands

The crop var Nairobi is at the 4-5 leaf stage (Figs 3 & 4) with ground cover still less than 5%. There is no sclerotial germination yet in the carrot crop or the wheat crop depots, but apothecia are

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expected to appear any day with the continued moist and mild conditions, with temperatures in the low 20s on several days over the past week. Rainfall over the past week has been more moderate at around 15 mm, compared to 25 mm or more last week.

Photos



Fig. 1. 27 June, Cambridgeshire site carrot field, cv. Bangor sown 19 May 2016, 2-3 leaf stage.



Fig. 2. 27 June, Cambridgeshire site carrot plants, cv. Bangor sown 19 May 2016, 2-3 leaf stage.

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Fig. 3. 27 June, Nottinghamshire site carrot field, cv. Nairobi, sown 3 May 2016: carrots at 4-5 leaf stage.

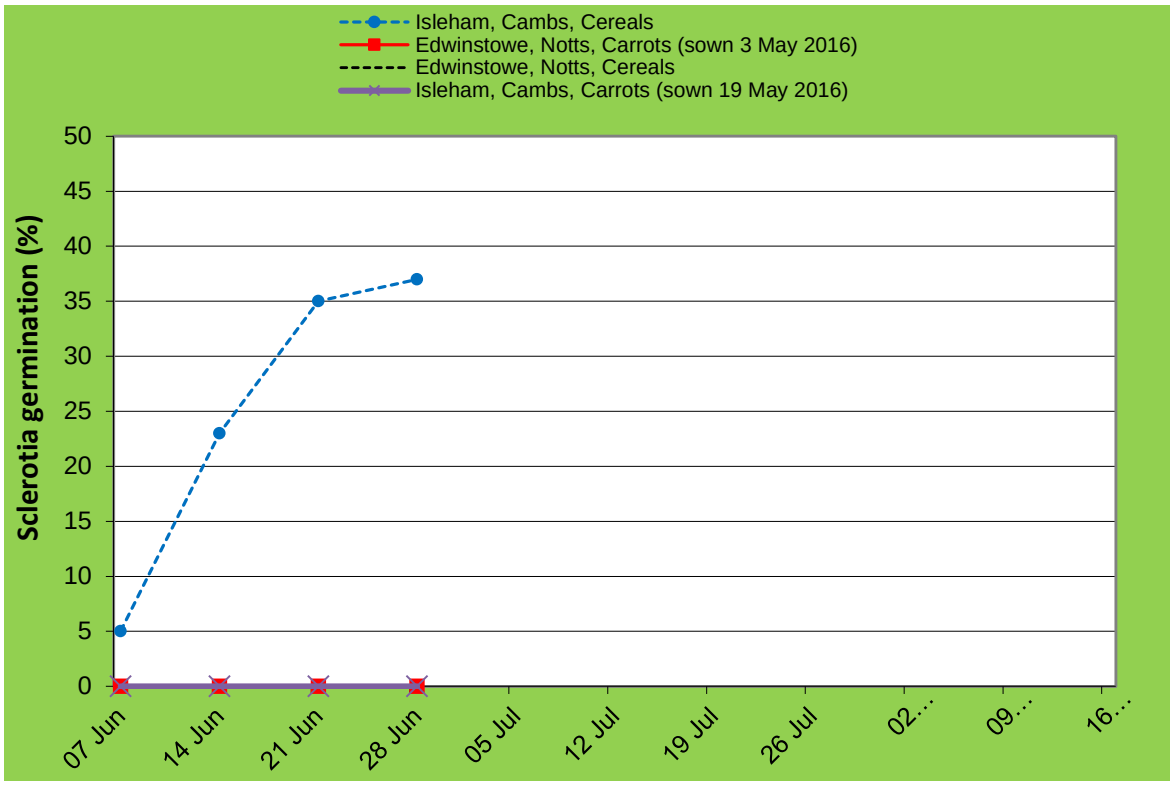


Fig. 4. 27 June, Nottinghamshire site carrot plants, cv. Nairobi, sown 3 May 2016: carrots at 4-5 leaf stage. Barley cover crop now senescent.

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Fig 5. Sclerotial Germination (refer to website map for exact locations)

Depots of carrot sclerotia are being monitored near Edwinstowe, Notts and Isleham, Cambs. At both of the sites, depots of carrot sclerotia are being monitored in winter cereals and in main crop carrots. This allows the effect of spring cultivations on sclerotial germination timing to be taken into account.



Key points

No germination of carrot sclerotia is evident in the monitor carrot crops but sclerotial germination has been observed again this week in the associated Cambridgeshire wheat crop. This indicates recent airborne spore release. With the current wet weather, sclerotial germination is likely to continue and spores will be present. However, infection risk to young carrot crops is low, as long as there are only new healthy leaves, no senescent foliage and a small canopy.

Actions

Most main crops are still at the seedling stage with low ground cover. No fungicides are required at this early stage, unless cavity spot is present. Monitor crops for any physical damage as this could facilitate infection by sclerotinia.

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