Carrot *Sclerotinia* Monitoring

28 July 2016

Overview

This is the week 8 report and plants continue to grow well in warm conditions so long as there is rain or irrigation. Sclerotial germination in carrots has not yet occurred at the Cambridgeshire site and no new apothecia or germination was seen at the Nottinghamshire site between 19-25 July. However, both sites have been irrigated and soil temperatures are warm so sclerotial germination is likely to continue. If so, spores will be produced and will infect carrot crops at canopy closure, or if dead leaves are present. Where apothecia are present the risk of sclerotinia infection is high and protectant fungicides should be applied.

Weather conditions and carrot growth stages

Last week between 20-27 July, Nottinghamshire had 0.8 mm of rain and Cambridgeshire 0.4 mm. Average temperatures were 20.3°C at the Nottinghamshire site and 20.8°C at the Cambridgeshire site. Weather over the weekend is forecast to be fresher and brighter with sunshine and showers. The coming week is forecast to be brighter at first but with showers affecting western and north western parts while south eastern areas remain generally dry. Temperatures are expected to be near average with some chilly nights. The latter half of the week is expected to be more unsettled. Where crops have been irrigated, carrot growth has been rapid over the last week as the crop has responded to warm temperatures.

Regions

Cambridgeshire and East Anglia

Carrots var. Bangor are now at the 8 leaf stage (Fig 1 and 2), growing well but there is still a large proportion of bare ground with small plants and a patchy crop. Dry soils have slowed the germination of sclerotia in the nearby wheat crop, still at 38% (Fig 5). Germination of sclerotia buried in the carrot field has not started. Soil temperatures are warm enough for germination of sclerotia and germination requires soil surfaces to be moist for a few consecutive days. Irrigation is now being applied to the carrot crop so germination may occur soon.

Nottinghamshire and E. Midlands

The crop var. Nairobi is still at the 9 leaf stage (Figs 3 & 4). There has been some emergence of apothecia of *Sclerotinia sclerotiorum*, but not yet at high levels and no new sclerotial germination was observed between 19-25 July. The last week has been warm with little rain, so irrigation has been applied to most carrot crops in the area. Soil temperatures are warm and further germination is anticipated if irrigation continues. No germination has yet been seen in the nearby wheat field.

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Photos



Fig. 1. 25 July, Cambridgeshire site carrot field, cv. Bangor sown 19 May 2016, 8 leaf stage.



Fig. 2. 25 July, Cambridgeshire site carrot plants, cv. Bangor sown 19 May 2016, 8 leaf stage.

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Fig. 3. 25 July, Nottinghamshire site carrot field, cv. Nairobi, sown 3 May 2016: carrots, 9 leaf stage.

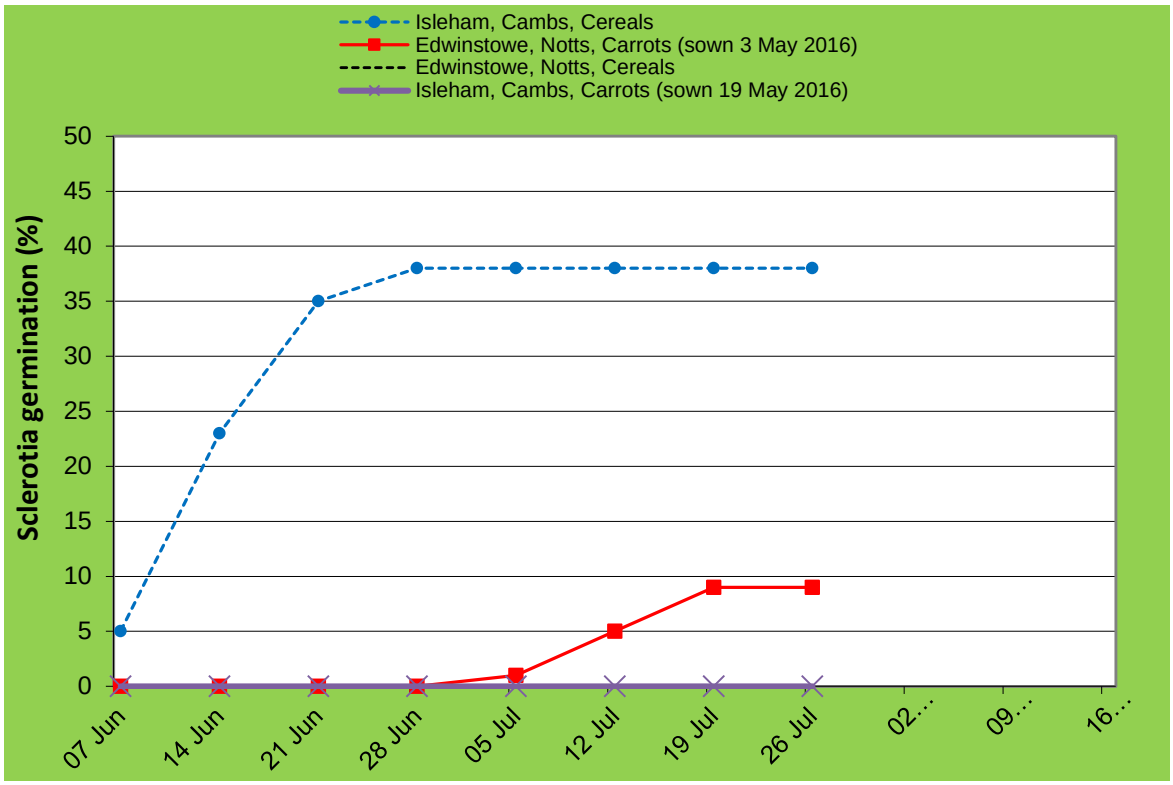


Fig. 4. 25 July, Nottinghamshire site carrot plants, cv. Nairobi, sown 3 May 2016: carrots, 9 leaf stage.

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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

Nottinghamshire site - no new sclerotial germination was seen last week in the carrot crop and germination has not yet occurred in the nearby wheat crop. Cambridgeshire site - sclerotia have not yet germinated in the carrot crop there was no new germination in the wheat crop (see chart). Soil temperatures are warm and irrigation has been applied to both sites so germination is likely to continue. There is a risk of infection where ground cover is near or at 100% and protectant fungicides are needed. Senescent leaves are also susceptible to infection irrespective of crop growth stage.

Actions

- Many main crops have canopies which are now meeting across the rows. Where this is the case, and with the possibility of rain or irrigation, fungicide applications should be considered to protect the leaves and bases of plants. Sclerotial germination is likely to occur if soils are moist, and this may occur at nearby sites other than the carrot monitor fields.
- Sclerotina will infect dying or damaged leaves, so if the crop has senescent cotyledons or canopy damage, a protectant fungicide treatment should be planned.
- Additional fungicide applications should be made at 2-3 week intervals after the pre-canopy closure treatment, to continue protection of foliage. Ensure that products with different modes of action are used in keeping with anti-resistance management strategies.

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