Carrot *Sclerotinia* Monitoring

8 July 2016

Overview

This is the week 5 report and infection risk is now increasing, so protectant sprays need to be planned. Plants are at 6-7 leaf stage at the Nottinghamshire site and 3-4 leaf stage at the Cambridgeshire site. Sclerotial germination has started in the Nottinghamshire crop where soils are moist, and germination has also been seen in other carrot crops in the area. By contrast, the soil at the Cambridge site is dry and the active germination in previous weeks has slowed this week. Where soils are moist, sclerotinia spores are very likely to be airborne now and will infect any carrot crops at a susceptible stage, which is when they are near or at canopy closure, or dead leaves are present. The current risk of sclerotinia infection is low if plants are small with no senescent leaves and canopies not closed over. But for crops further on, protectant fungicide applications should be considered now.

Weather conditions and carrot growth stages

The weather last week was unsettled with above average rainfall (17 mm), with the highest rain in the north east (33mm) and north west (29 mm), but <10 mm in south and eastern regions. Average air temperature was 14°C, one degree cooler than the previous week.

Predicted weather is for unsettled conditions over the weekend with rain/showers spreading to most of the UK, and this is likely to continue into the next week. Overall, temperatures are forecast to be normal, and the south and east will be relatively dry whereas the north will be wetter.

Regions

Cambridgeshire and East Anglia

Carrots var Bangor are still growing well, now at the 3-4 leaf stage (Fig 1 and 2). Dryer soils have slowed the germination of sclerotia in the nearby wheat crop, now at 38% compared to 37% last week% (Fig 5). Germination of sclerotia buried in the carrot field on 26 May may be delayed if the soil stays dry. Our sclerotia in grids are indicative of the activity of other sclerotia in the area, both in crops drilled last autumn and those sown more recently.

Nottinghamshire and E. Midlands

The crop var Nairobi is at the 6-7 leaf stage (Figs 3 & 4) with quite good crop growth although the monitored crop was checked by a post emergence herbicide mix to control broad leaved weeds and volunteer potatoes. There is at last some sclerotial germination (although only 1%). Last week had 12 to 20 mm of rainfall depending on location, which has kept soils moist even though there have been periods of sunny weather. However, temperatures have rarely exceeded 20°C.

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Aphid numbers in carrot crops are generally low at present, although virus symptoms can be seen on odd plants in some crops where aphid control has not been completely effective.

Sclerotial germination in carrot crops has been reported locally by another carrot agronomist, so conditions have obviously suited germination, and disease pressure is likely to build from now onwards. Foliar fungicides have started to be applied to main crop carrots in the last 7 days to try to ensure disease prevention before it becomes established.

Photos



Fig. 1. 4 July, Cambridgeshire site carrot field, cv. Bangor sown 19 May 2016, 3-4 leaf stage.



Fig. 2 4 July, Cambridgeshire site carrot plants, cv. Bangor sown 19 May 2016, 3-4 leaf stage.

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Fig. 3. 4 July, Nottinghamshire site carrot field, cv. Nairobi, sown 3 May 2016: carrots at 6-7 leaf stage.

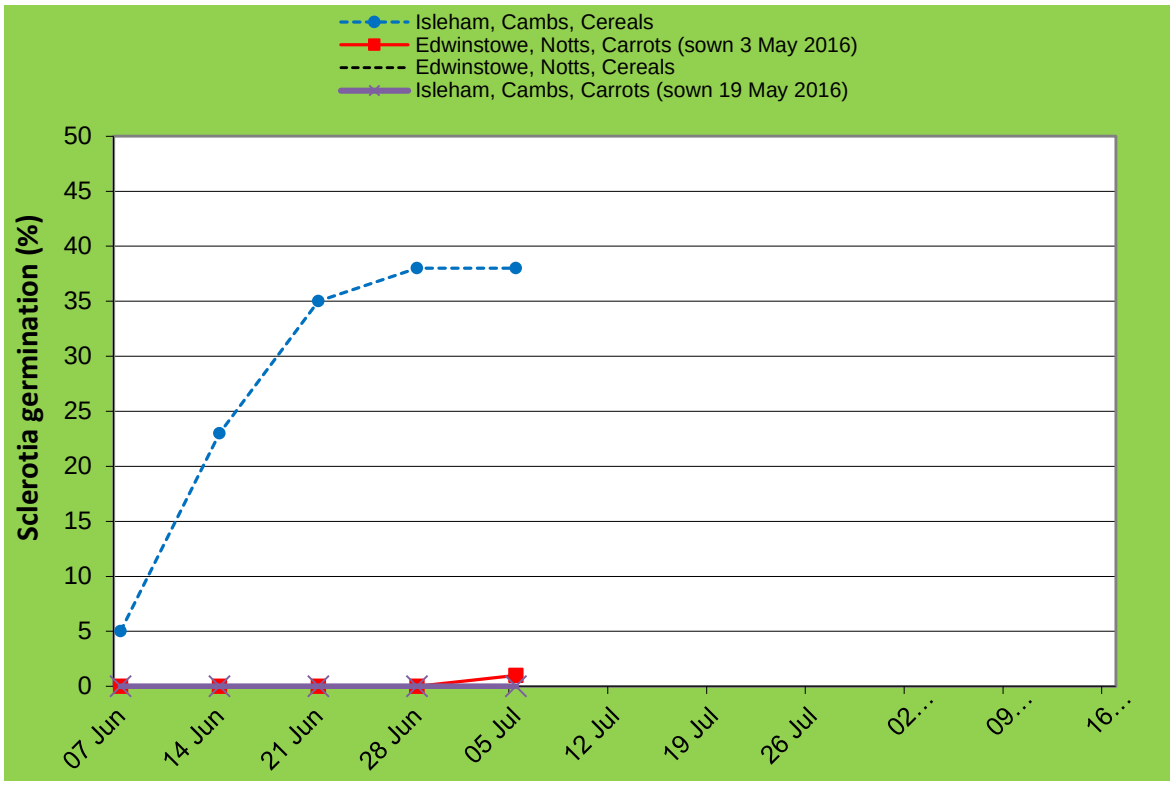


Fig. 4. 4 July, Nottinghamshire site carrot plants, cv. Nairobi, sown 3 May 2016: carrots at 6-7 leaf stage.

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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

Germination of sclerotia has been seen in monitor carrot crops in Nottinghamshire and in the associated Cambridgeshire wheat crop. This indicates continuing airborne spore release. Where soils stay moist, sclerotial germination is likely to continue and spores will be present. So there is a risk of Infection risk to carrots where canopies start to close over and protectant fungicides are needed. Also, if there is any senescent foliage, canopy closing or not, it will be susceptible to infection by sclerotinia.

Actions

Where canopies are starting to close over, protectant sprays should be applied, as sclerotinia inoculum is most likely present now. Monitor crops for physical damage, as dead or wounded leaves are susceptible to infection by sclerotinia, whether or not the canopies are small.

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