Carrot *Sclerotinia* Monitoring

5 June 2015

Overview

Early sown main crops are generally at the 2-3 leaf stage, but are at 1 leaf stage at the sclerotinia monitor sites. The weather this spring has been generally cool but soil temperatures are warming up. Where soils remain moist, sclerotia of the pathogen *Sclerotinia sclerotiorum* will start to germinate to produce fruiting bodies (apothecia) that release airborne spores which can infect carrot crops. Sclerotial germination will occur in winter cereals and other arable crops as well as carrots in the growing areas of Norfolk and Nottinghamshire. Germination began this year in oilseed rape monitoring sites in the South West in late March, with the more Easterly and Northern sites starting later in mid-April. Germination of sclerotia in carrot fields usually takes at least a month from sowing. We will monitor two carrot sites to check for early germination as soil temperatures are now warming up. The current risks in carrots are low.

Weather conditions and carrot growth stages

Over the last week, UK rainfall was above average (24 mm) but the East received the least (9 mm). Air temperatures averaged 10^{o}C, one degree below normal and two degrees cooler than the previous week. Soil temperatures were on average 13^{o}C, one degree above normal. This means that sclerotia are likely to germinate actively if soils remain moist at the surface. Most of the forward main crops not under fleece have 2-3 true leaves.

Regions

Cambridgeshire and East Anglia

The Cambridgeshire and eastern areas have been fairly dry over the last week. Carrots were sown on 1 May at the monitoring site and are at the 2 leaf stage. Ground cover is currently less than 5%; there is no cover crop. Sclerotia were buried in the carrot crop on 11 May and could start to germinate from early June onwards if soils become moist for several days. There is no germination yet in the associated sclerotia depot in winter cereals (sclerotia buried December 2014). Monitoring germination in both wheat and carrots allows us to see the effect of spring cultivations on the timing of sclerotial germination. Fig 1 shows the field on 3 June, and Fig 2 is a close-up photo of the same crop on 3 June.

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Nottinghamshire and E. Midlands

The monitoring site had 17 mm rain last weekend, and soil is moist underneath but high winds have dried out the soil surface. There is some damage to plants from sand blast. There is no germination yet of sclerotia which were buried in the crop sown on 21 April (sclerotia buried 8 May). There is also no germination in the associated sclerotia depot in winter cereals (sclerotia buried December 2014). Ground cover is currently less than 5%, with the carrot crop only at the 1 leaf stage (second leaf just showing) with the recent cold and windy weather. Fig 3 shows the crop on 1 June, and the barley cover crop has now been sprayed out. Fig 4 is a close-up photo of the same crop on 1 June.

Photos



Fig. 1. 3 June, Cambridgeshire site carrot growth, cv. Nairobi sown 1 May 2015: 2 leaf stage.



Fig. 2. 3 June, Cambridgeshire site carrot growth, cv. Nairobi sown 1 May 2015: 2 leaf stage.

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Fig. 3. 1 June, Nottinghamshire site carrot growth, cv. Nairobi sown 21 April 2015, with barley cover crop: carrots are at the 1 leaf stage.

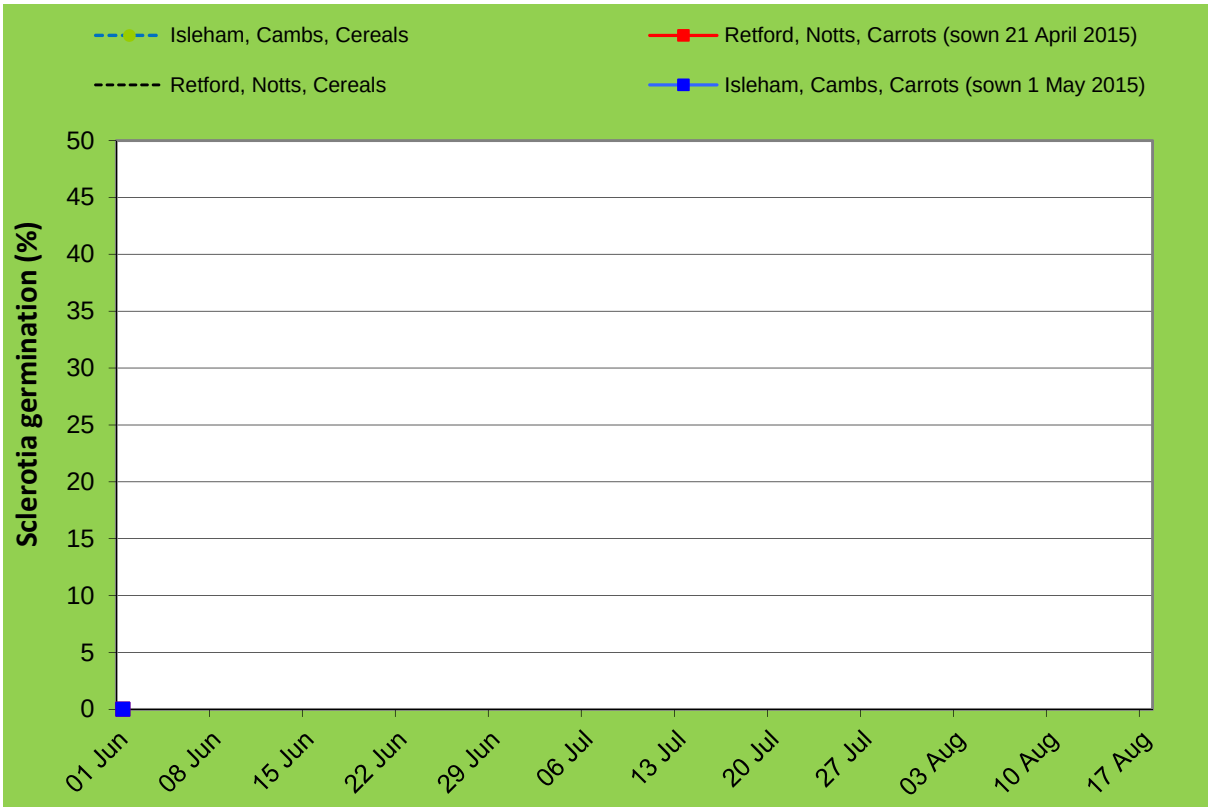


Fig. 4. 1 June, Nottinghamshire site carrot growth, cv. Nairobi sown 21 April 2015: carrots are at the 1 leaf stage.

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Sclerotia Germination (refer to website map for exact locations)

Depots of carrot sclerotia are being monitored near Retford, 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 winter cereals or carrots. There is sclerotinia activity in winter arable crops at the moment in some regions, but infection risk to carrot crops is currently low.

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.

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