Carrot *Sclerotinia* Monitoring

23 June 2016

Overview

This is the week three report for sclerotinia monitoring in carrot crops, in Nottinghamshire and Cambridgeshire. Plants are at the 3-4 leaf stage at the Nottinghamshire site and this week just emerged at the Cambridgeshire site. Soils remain moist, so sclerotia of the pathogen *Sclerotinia sclerotiorum* will continue to germinate. As a result, there are airborne spores which can infect carrot crops, especially when there is canopy closure or if there are dead leaves present. Sclerotial germination is currently seen 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.

Weather conditions and carrot growth stages

Last week was mainly warm but wet, with average rainfall of 25 mm. The south west was wettest (45 mm) whilst Yorkshire and Humber was driest (9 mm). Air temperatures averaged 14°C, one degree above normal. Carrot crop growth progresses well, with the Notts crop the furthest along at 3-4 leaves, compared to the Cambs 1 leaf stage.

Going forward, the weather is predicted to remain mild and wet across the UK, with particularly humid conditions forecast in the south. Over the weekend and into next week there is the potential for showers in all areas, although likely to be less severe than last week, with the driest weather likely to be seen in the south and east.

The rain means that many growers are behind with spraying and have been concentrating on potato blight treatments, with herbicide and insecticide sprays to carrots still to be applied, and weeds are getting larger. There is somewhat less rain forecast next week, so spraying may catch up.

High numbers of *Myzus persicae* aphids are being found locally in carrots and potatoes, and numbers of willow carrot aphids are still high. Therefore, insecticides are being applied to carrots when conditions allow. In addition, volunteer potatoes are now obvious in some carrot fields. With the changes to the Defy EAMU, herbicide control is limited to Linuron which only gives partial control. So growers are considering hand weeding, spot spraying or careful use of weed wipers.

Regions

Cambridgeshire and East Anglia

Once again the Cambridgeshire and eastern areas had significant rain over last week. Carrots sown on 19 May at the monitoring site have now emerged (Fig 1). Sclerotia buried in this field on 26 May are expected to germinate from now onwards, as the sclerotia buried last winter in the nearby wheat crop have now reached 35% germination (Fig 5). This means that airborne spore inoculum is currently being

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produced. Our sclerotia depots are indicative of the activity of sclerotia elsewhere in the region, in crops drilled from last autumn to those sown more recently.

Nottinghamshire and E. Midlands

The crop (var Nairobi) sown on 3 May is at the 3-4 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 expected to appear any day with the current moist and mild conditions. Over the last week, carrot crop growth has been good with most plants producing an additional leaf, and many areas have had further significant rain with many areas recording 25–35 mm. Consequently, spraying conditions have been limited to last weekend only.

Photos



Fig. 1. 14 June, Cambridgeshire site carrot field, cv. Bangor sown 19 May 2016, 1 leaf stage.

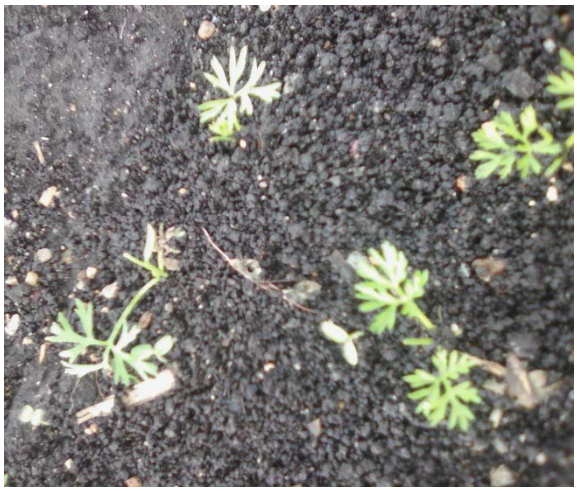


Fig. 2. 20 June, Cambridgeshire site carrot field, cv. Bangor sown 19 May 2016, 1 leaf stage.

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Fig. 3. 20 June, Nottinghamshire site carrot growth, cv. Nairobi, sown 3 May 2016, with barley cover crop: carrots are at 3-4 leaf stage.

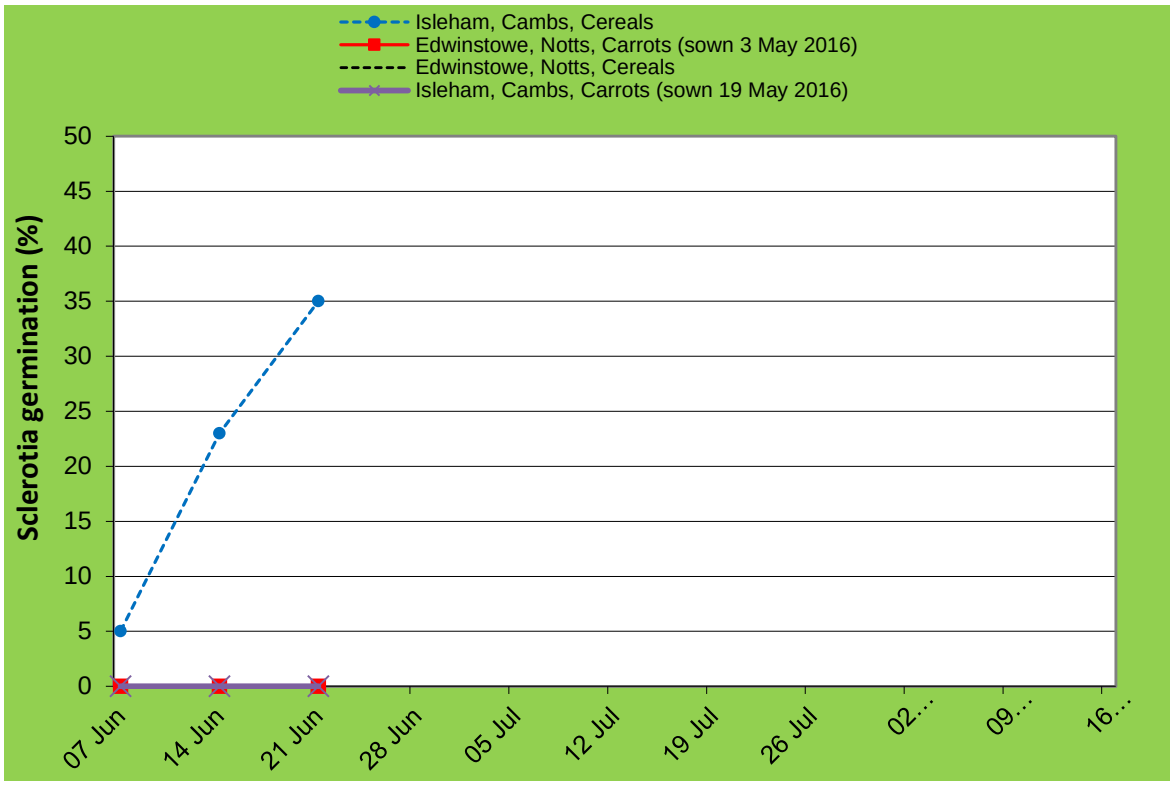


Fig. 4. 20 June, Nottinghamshire site carrot growth, cv. Nairobi, sown 3 May 2016: carrots are at the 3-4 leaf stage. Barley cover crop is now senescent.

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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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