# Carrot *Sclerotinia* Monitoring

## 9 July 2015

### Overview

Carrots continued to grow quite rapidly over the past week with some very hot sunny weather. Most areas had a dry week up until Friday night when some sites had local thunderstorms, e.g. 8 – 18 mm of rain was measured at the Nottinghamshire site. More rain fell this week on Monday evening, so soils were quite moist again, which should help crop growth during the current week and may encourage sclerotial germination.

Aphicides have been applied to many carrot crops over the past 7 days, and also fungicides to enable protection of plant bases and leaves before canopy closure prevents penetration of sprays. Final herbicides are also being applied to control late emerging weeds including volunteer potatoes and fat hen.

Despite some rainfall, there is still no germination of sclerotia of the pathogen *Sclerotinia sclerotiorum* at the two BASF carrot monitor fields. Sclerotia germination results in fruiting bodies (apothecia) that release airborne spores which can infect carrot plants. Where soil surfaces remain moist, sclerotial germination will occur in winter cereals and other arable crops as well as carrots. The current risks of sclerotinia infection in the monitor crop carrots are low.

### Weather conditions and carrot growth stages

The weather is predicted to turn wetter and cooler in northern England and Scotland towards the end of the week, with unsettled weather expected over the weekend. Going into the next week, high pressure is expected to dominate the weather in southern Britain, however in northern areas the weather is likely to be cloudy, cool and wet.

In general, main crop carrots have at last started to increase their canopy size. Soil temperatures are warm enough for germination of sclerotia but many soils are dry. Mainly localised rain is predicted for the next week. Germination requires soil surfaces to be moist for a few consecutive days.

### Regions

#### Cambridgeshire and East Anglia

The carrots are still at the 5 leaf stage with ground cover now about 50-60%. There is no germination yet of sclerotia buried on 11 May in the crop. There will need to be sufficient rain to keep the soil surface moist for a few days to allow germination. There is also no germination yet in

**BASF plc Crop Protection**
P.O. Box 4 – Earl Road – Cheadle Hulme – Cheadle – Cheshire SK8 6QG
Telephone: 0161 485 6222 – Fax: 0161 485 2229

the nearby sclerotia grid in winter cereals (sclerotia buried December 2014). Fig 1 shows the field on 6 July, and Fig 2 is a close-up showing the 5 leaf stage on that date.

### Nottinghamshire and E. Midlands

The carrots in this monitor field are at the 5-6 leaf stage with about 60-70% ground cover which is still behind other carrot crops in the area. Even with recent rain, there is no germination yet of sclerotia buried on 8 May in the crop. There is also no germination in the nearby sclerotia grid in winter cereals (sclerotia buried December 2014). Fig 3 shows the crop on 6 July; Fig 4 is a close-up photo on this date, showing the 5-6 leaf stage.

## Photos



**Fig. 1.** 6 July, Cambridgeshire site carrot growth, cv. Nairobi sown 1 May 2015: 5 leaf stage.

**BASF plc Crop Protection**
P.O. Box 4 – Earl Road – Cheadle Hulme – Cheadle – Cheshire SK8 6QG
Telephone: 0161 485 6222 – Fax: 0161 485 2229



**Fig. 2.** 6 July, Cambridgeshire site carrot growth, cv. Nairobi sown 1 May 2015: 5 leaf stage.



**Fig. 3.** 6 July, Nottinghamshire site carrot growth, cv. Nairobi sown 21 April 2015: 5-6 leaf stage.

**BASF plc Crop Protection**
P.O. Box 4 – Earl Road – Cheadle Hulme – Cheadle – Cheshire SK8 6QG
Telephone: 0161 485 6222 – Fax: 0161 485 2229

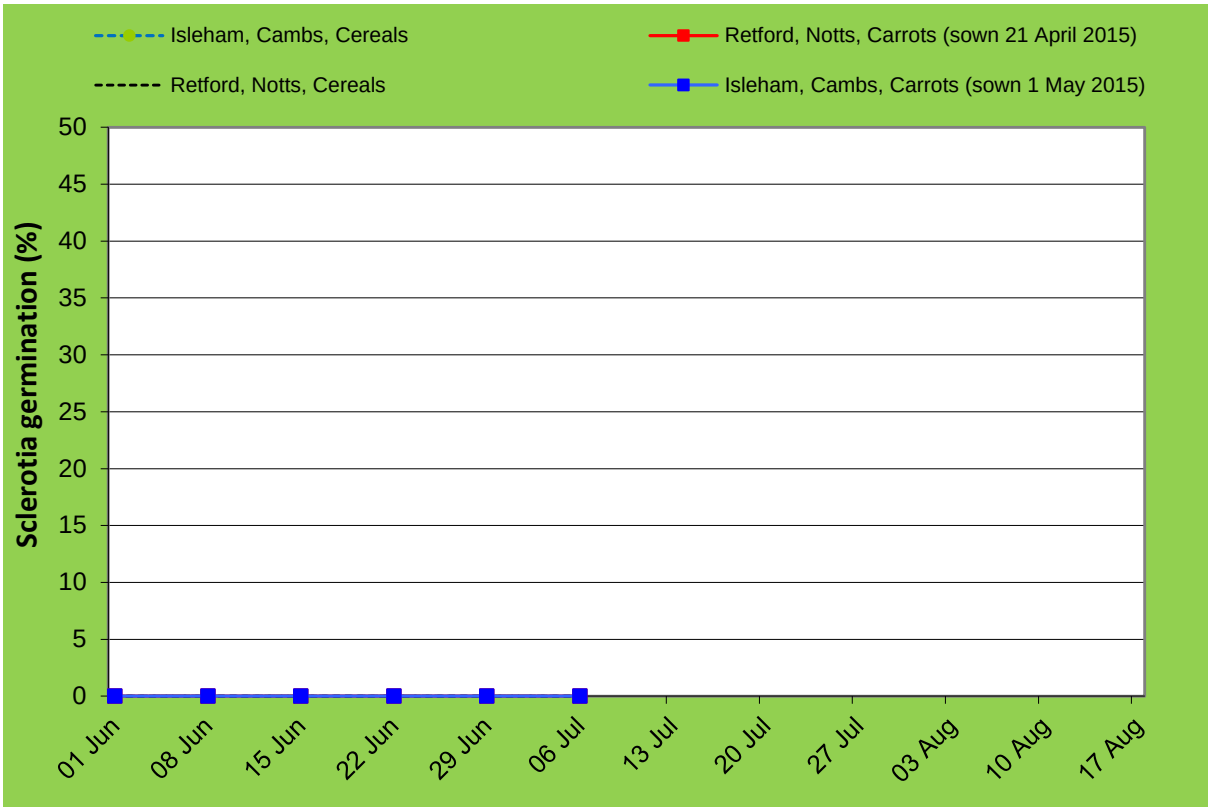


**Fig. 4.** 6 July, Nottinghamshire site carrot growth, cv. Nairobi sown 21 April 2015: 5-6 leaf stage..

**BASF plc Crop Protection**
P.O. Box 4 – Earl Road – Cheadle Hulme – Cheadle – Cheshire SK8 6QG
Telephone: 0161 485 6222 – Fax: 0161 485 2229

## 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. Infection risk to carrot crops is currently low. But this could change if there is rain which makes soil surfaces moist for a few days, and stimulates sclerotial germination at the monitoring sites and/or elsewhere.*

## Actions

- Many main crops have canopies which are now nearly meeting across the rows. Where this is the case, and with the possibility of rain, fungicide applications should be considered now to protect the leaves and bases of plants. Sclerotial germination is likely to occur if soils are moist, and this may occur at sites other than the carrot monitor fields.
- Additional fungicide applications will be needed 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, to reduce the risk of development of resistance of sclerotinia to the active ingredients.

**BASF plc Crop Protection**
P.O. Box 4 – Earl Road – Cheadle Hulme – Cheadle – Cheshire SK8 6QG
Telephone: 0161 485 6222 – Fax: 0161 485 2229