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## CARROT FLY – 14 October 2021

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### Carrot fly forecasts 2021

The forecast outputs below are based on weather data collected by Plantsystems Limited and funded by Syngenta. The forecasts predict the timing of fly activity. They do not predict the number of insects present in the crop, as this depends on the size of the local fly population. For control purposes, we consider that the pest has become active when 10% of the insects have emerged/laid eggs and that the peak of activity has occurred when 50% have emerged/laid eggs. The predictions will change over time depending on weather conditions.

**Third generation carrot flies** will be starting to emerge in warm locations. These may go on to lay some eggs but as temperatures decline in the autumn it is increasingly unlikely that any eggs laid will hatch into larvae that subsequently cause damage. However, with climate change it is important to keep an eye on what is happening with the third generation in warmer locations.



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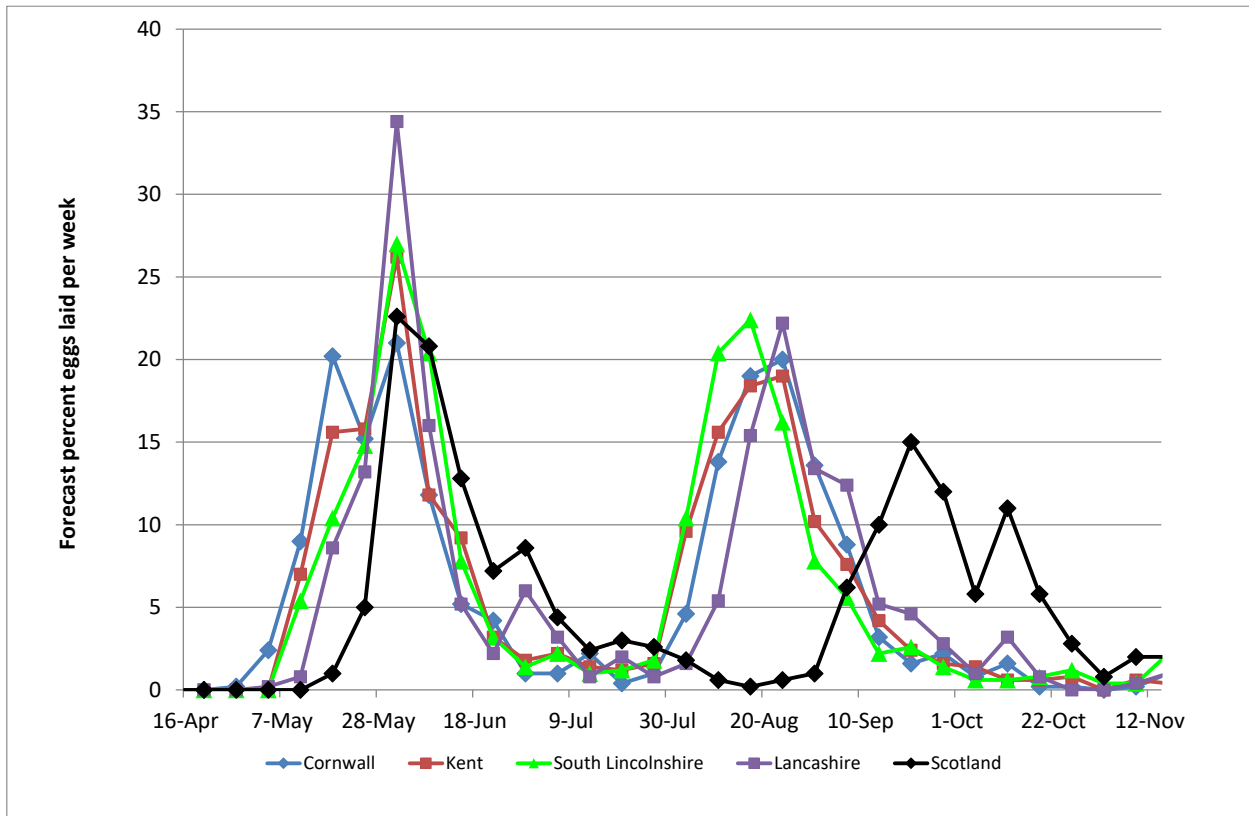
<b>Region</b>	<b>Second generation Forecast 10% EMERGENCE in 2021</b>	<b>Second generation Forecast 10% EGG-LAYING in 2021</b>	<b>Second generation Forecast 50% EGG-LAYING in 2021</b>	<b>Third generation Forecast 10% EMERGENCE in 2021</b>
Cornwall (Newquay)	31 July	10 August	21 August	-
Kent (Canterbury)	29 July	9 August	21 August	4 Oct
Suffolk (Woodbridge)	21 July	28 July	10 August	28 Sep
Wellesbourne (Warwick)	23 July	31 July	13 August	26 Sep
Norfolk (Norwich)	23 July	31 July	12 August	27 Sep
South Lincolnshire (Boston)	27 July	3 August	15 August	8 Oct
Nottingham (Bilsthorpe)	1 August	12 August	23 August	-
Lancashire (Ormskirk)	4 August	15 August	25 August	-
York (Market Weighton)	30 July	9 August	20 August	-
Scotland (Blairgowrie)	25 August	10 Sep	26 Sep	-



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The graph below shows the forecast pattern of first and second generation egg-laying for 2021 at 5 of the sites in the table above.

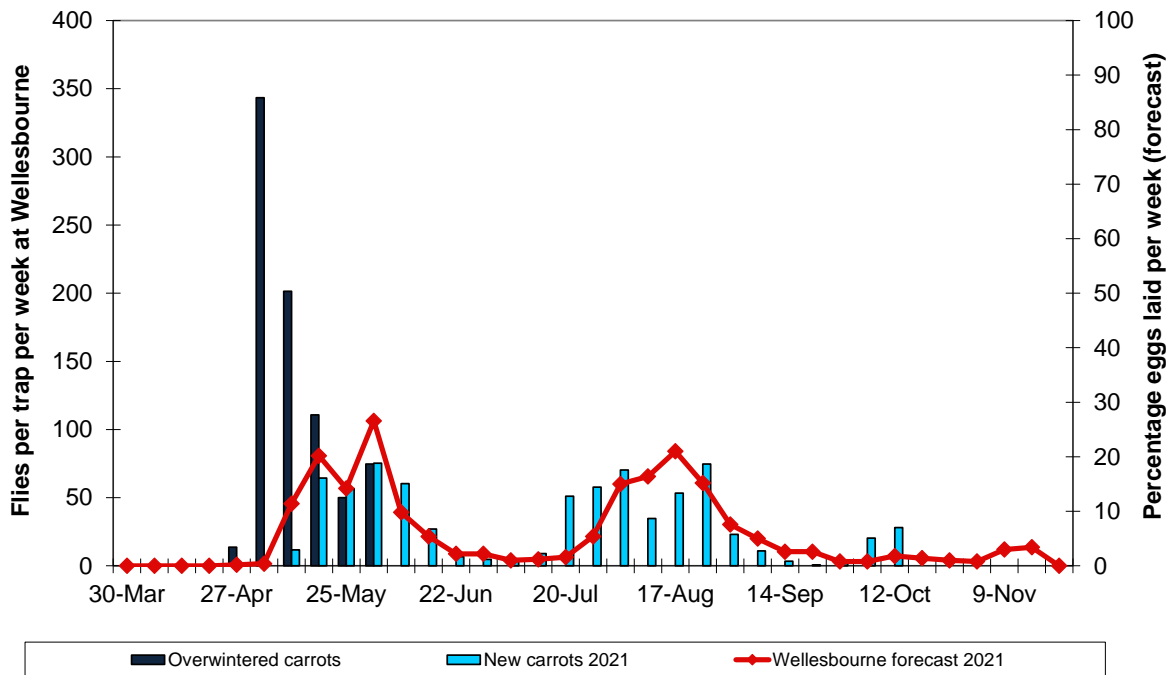




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The graph below compares trap captures at Wellesbourne with forecast egg-laying for 2021. There will be a lag between emergence and egg-laying as the flies need time to feed and mate before they lay eggs and this period will be longer when the weather is cooler. **Third generation flies are starting to emerge as predicted but the forecast predicts that few eggs will be laid by these flies.**





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## Carrot fly monitoring 2021

Trap captures at Wellesbourne in 2021 are summarised below. The traps were out all winter and the last fly in 2020 was caught on 24<sup>th</sup> November.

Date	Adult carrot flies (overwintered and new carrots) (total on 3 traps)
30 Mar	0
5 Apr	0
13 Apr	0
16 Apr	0
20 Apr	0
23 Apr	4
27 Apr	37
30 Apr	323
4 May	707
7 May	413
11 May	191 (old carrots) and 35 (new carrots)
14 May	166 (old carrots) and 80 (new carrots)
18 May	166 (old carrots) and 113 (new carrots)
21 May	48 (old carrots) and 55 (new carrots)
25 May	102 (old carrots) and 115 (new carrots)
28 May	98 (new carrots)
1 June	128 (new carrots)
4 June	100 (new carrots)
8 June	81 (new carrots)
11 June	49
15 June	32



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## Carrot fly monitoring 2021

Trap captures at Wellesbourne in 2021 are summarised below.

Date	Adult carrot flies (new carrots) (total on 3 traps)
18 June	16
22 June	4
25 June	13
29 June	1
2 July	7
6 July	6
9 July	5
13 July	22
16 July	65
20 July	88
23 July	76
27 July	97
30 July	104
3 August	107
6 August	57
10 August	47
13 August	39
17 August	121
20 August	153
24 August	71
27 August	41
31 August	28



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## Carrot fly monitoring 2021

Trap captures at Wellesbourne in 2021 are summarised below.

Date	Adult carrot flies (new carrots) (total on 3 traps)
3 September	14
7 September	19
10 September	4
14 September	6
17 September	1
21 September	1
24 September	1
28 September	4
1 October	16
5 October	45
8 October	25
12 October	59





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## Historical information from 2020

### Carrot fly forecasts 2020

**N.B. the forecast for Lancashire looks unusually late. There has been a problem with the soil temperature sensor.**

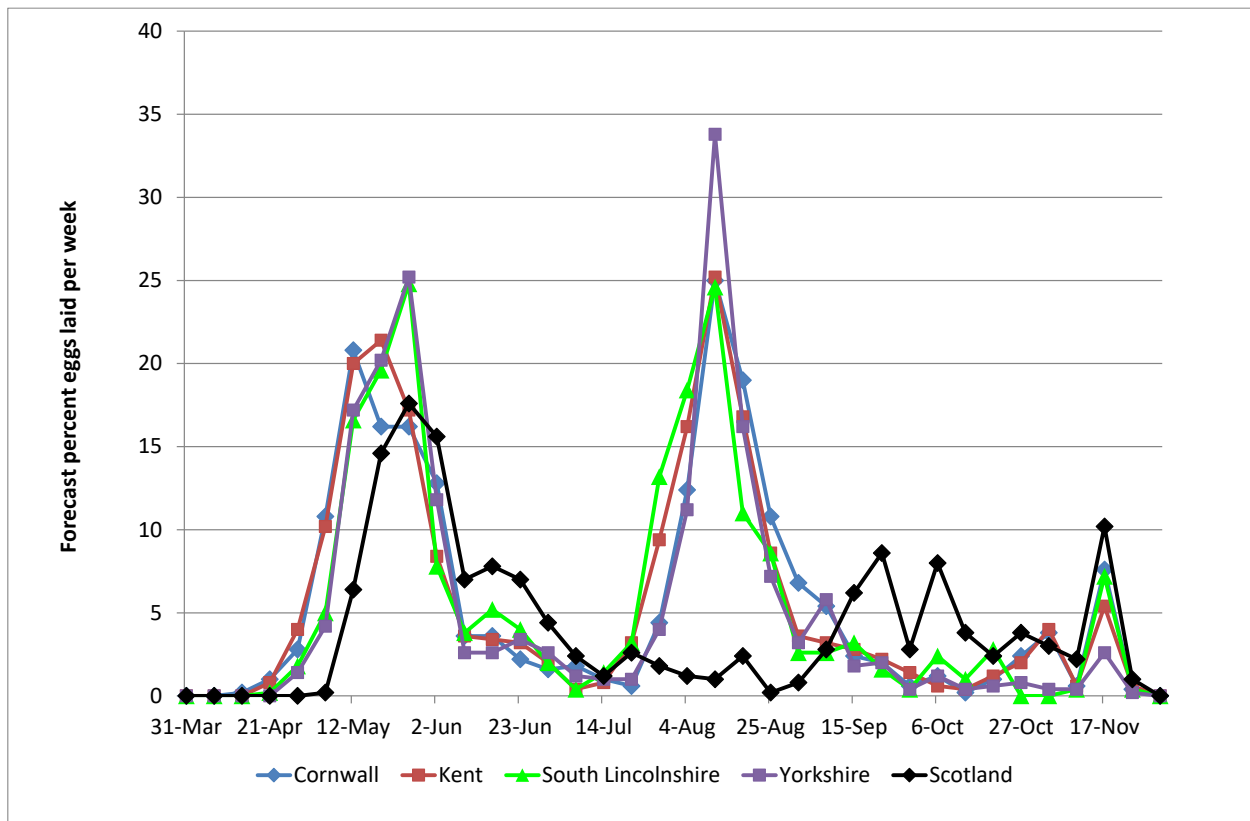
Region	First generation Forecast 50% EGG-LAYING in 2020	Second generation Forecast 10% EMERGENCE in 2020	Second generation Forecast 10% EGG-LAYING in 2020	Second generation Forecast 50% EGG-LAYING in 2020	Third generation Forecast 10% EMERGENCE in 2020
Cornwall (Newquay)	16 May	20 Jul	30 Jul	11 Aug	1 Oct
Kent (Sittingbourne)	17 May	18 Jul	27 Jul	7 Aug	27 Sep
Suffolk (Woodbridge)	19 May	16 Jul	24 Jul	3 Aug	17 Sep
Wellesbourne (Warwick)	7 May	5 Jul	15 Jul	27 Jul	12 Sep
Norfolk (Norwich)	19 May	22 Jul	28 Jul	9 Aug	27 Sep
South Lincolnshire (Boston)	16 May	18 Jul	24 Jul	11 Aug	22 Sep
Nottingham (Bilsthorpe)	20 May	28 Jul	31 Jul	15 Aug	16 Oct
Lancashire (Ormskirk)	25 May	11 Aug	28 Aug	10 Sep	-
York (Market Weighton)	19 May	22 Jul	30 Jul	10 Aug	14 Oct
Scotland (Blairgowrie)	25 May	20 Aug	9 Sep	19 Sep	-



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The graph below shows the forecast pattern of egg-laying in 2020 by carrot fly at 5 of sites in the table above.





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**Carrot fly monitoring 2020**

Trap captures at Wellesbourne in 2020 are summarised below. The traps were out all winter.

Date	Adult carrot flies (overwintered then new carrots) (total on 3 traps)
8 Jan – 17 Mar	0
24 Mar	1
31 Mar	1
7 Apr	0
14 Apr	5
21 Apr	46
28 Apr	504
1 May	59
5 May	493
8 May	90
12 May	432
15 May	66
19 May	46 – moved to new carrot plot
22 May	140
26 May	56
29 May	60
2 June	45
5 June	15
9 June	14
12 June	8
16 June	15
19 June	4
23 June	2
26 June	1
30 June	13
3 July	11
7 July	60



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Date	Adult carrot flies (new carrots) (total on 3 traps)
10 July	39
14 July	50
17 July	37
21 July	56
24 July	20 (2 traps)
28 July	42
31 July	31
4 August	21
7 August	17
11 August	10
14 August	2
18 August	0
21 August	0
25 August	3
28 August	1
1 September	0
4 September	3
8 September	25
11 September	30
15 September	65
18 September	62
22 September	102
25 September	114
29 September	367



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Date	Adult carrot flies (total on 3 traps)
2 October	174
6 October	624
9 October	325
13 October	339
16 October	251
20 October	362
23 October	163
26 October	113
30 October	62
3 November	47



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The graph below compares trap captures at Wellesbourne with forecast egg-laying for 2020. The third generation is now emerging. The forecast is predicting that a small proportion of these flies will lay eggs. There will be a lag between emergence and egg-laying as the flies need time to feed and mate before they lay eggs and this period will be longer when the weather is cooler.

