



Bean seed fly – 14 October 2021

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Introduction

Bean seed flies overwinter as pupae in the soil. Recent monitoring at Wellesbourne, Warwickshire has shown that small numbers of flies emerge throughout the winter but that emergence increases in March-April. After feeding and mating, the female lays her eggs just below the soil surface, generally singly. Females may lay as many as 40 eggs in a day. There is generally a period of several days before a further batch of eggs is laid. Females prefer to lay eggs in freshly disturbed soil, especially where there are residues of vegetable matter or where large amounts of farmyard manure have been applied. The presence of plants is not required for bean seed flies to lay eggs. In the absence of a suitable host plant, the larva is able to complete development by feeding on decomposing organic matter. The rate of development, and therefore the number of generations, depends on the ambient temperature. Bean seed flies can complete between 3 and 6 generations during the year according to the climate. Crops affected include: onion, bean, cucurbits, spinach, Brassica, radish, beet, asparagus and sweetcorn.

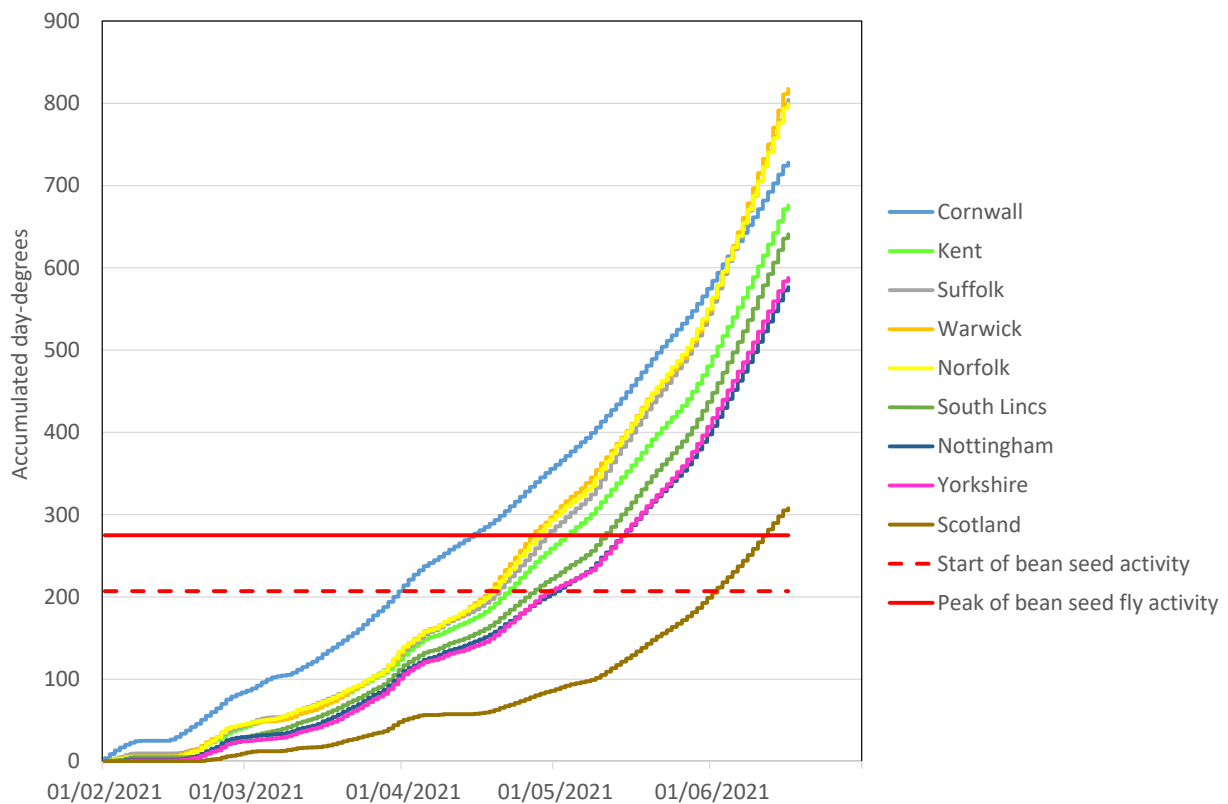


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Preliminary bean seed fly forecast

A preliminary bean seed fly forecast has been developed as part of Becca McGowan’s PhD project funded by PGRO, AHDB and Warwick University. The graph below shows accumulated day-degrees above 3.9°C and the estimated soil day-degree sums for the start and peak of the first period of bean seed fly activity in the spring (207 and 275 day-degrees respectively).





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Bean seed fly monitoring 2021 – Warwickshire

Date - 2021	Total in 3 traps near overwintered/new swedes at Wellesbourne
29 Dec	28
5 Jan	0
12 Jan	1
19 Jan	10
26 Jan	3
2 Feb	35
9 Feb	14
16 Feb	0
23 Feb	38
2 Mar	41
9 Mar	4
16 Mar	17
23 Mar	11
30 Mar	10
5 Apr	3
13 Apr	29
16 Apr	31
20 Apr	29
23 Apr	10
27 Apr	16
30 Apr	23
4 May	16
7 May	50
11 May	90
14 May	35
18 May	35
21 May	15
25 May	29



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Bean seed fly monitoring 2021 - Warwickshire

Date - 2021	Total in 3 traps near overwintered/new swedes at Wellesbourne
28 May	24
1 June	6
4 June	14
8 June	16
11 June	2
15 June	13
18 June	7
22 June	65
25 June	31
29 June	19
2 July	10
6 July	6
9 July	19
13 July	8
16 July	13
20 July	3
23 July	5
27 July	6
30 July	25
3 August	47
6 August	37
10 August	20
13 August	7
17 August	16
20 August	29
24 August	11
27 August	30
31 August	18



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Bean seed fly monitoring 2021 - Warwickshire

Date - 2021	Total in 3 traps near overwintered/new swedes at Wellesbourne
3 Sep	23
7 Sep	10
10 Sep	25
14 Sep	22
17 Sep	25
21 Sep	9
24 Sep	11
28 Sep	12
1 Oct	40
5 Oct	75
8 Oct	16
12 Oct	3



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Bean seed fly monitoring – PGRO

Below are trap counts from PGRO monitoring using blue sticky traps with lures.

Yorkshire

Date	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Average
30-Apr	130	122	176	75	151	119	62	119.3
05-May	35	12	14	16	4	5	22	15.4

Lincolnshire

Date	Trap 1	Trap 2	Trap 3	Average
06-Apr	1	2	2	1.7
13-Apr	15	6	16	12.3
20-Apr	102	174	123	133.0
27-Apr	62	131	158	117.0
05-May	67	50	17	44.7



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Historical information from 2020

Trap captures in Warwickshire 2020.

Date - 2020	Total in 3 traps near overwintered swedes at Wellesbourne	Total in 3 traps in Tysoe Allotments, Warwickshire set up 26 th March due to Covid-19	Total in traps in garden in Tysoe, Warwickshire set up 28 th March
7 th -14 th Jan	28		
21st Jan	4		
28 th Jan	5		
4 th Feb	32		
11 th Feb	11		
18 th Feb	12		
25 th Feb	7		
3 Mar	4		
10 Mar	16		
17 Mar	28		
27 Mar		4	
28 Mar		0	
29 Mar		0	
30 Mar		1	14 (5 traps)
31 Mar		1	3 (6 traps)
1 Apr		2	2 (6 traps)
2 Apr		2	8 (6 Traps)



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Date - 2020	Total in 3 traps near overwintered swedes at Wellesbourne	Total in 3 traps in Tysoe Allotments, Warwickshire set up 26 th March	Total in traps in garden in Tysoe, Warwickshire set up 28 th March (6 traps)
03-Apr	-	2	5
04-Apr	-	6	7
05-Apr	-	3	24
06-Apr	-	3	10
07-Apr	-	4	3
08-Apr	-	0	0
09-Apr	-	0	2
10-Apr	-	1	1
11-Apr	-	2	1
12-Apr	-	2	0
13-Apr	-	1	3
14-Apr	-	2	2
15-Apr	-	4	4
16-Apr	-	1	3
17-Apr	-	5	10
18-Apr	-	0	0
19-Apr	-	6	4
20-Apr	-	3	5
21-Apr	-	4	35
22-Apr	-	8	9
23-Apr	-	0	0



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Date - 2020	Total in 3 traps near overwintered swedes at Wellesbourne	Total in 3 traps in Tysoe Allotments, Warwickshire set up 26 th March 2020	Total in traps in garden in Tysoe, Warwickshire set up 28 th March 2020 (6 traps)
24-Apr	-	0	0
25-Apr	-	0	0
26-Apr	-	1	0
27-Apr	-	1	3
28-Apr	-	1	1
29-Apr	-	6	11
30-Apr	-	3	1
1-May	-	3	8
2-May	-	4	5
3-May	-	1	1
4-May	-	2	2
5-May	-	0	9
6-May	-	4	6
7-May	-	1	0
8 & 9 May	-	0	1
10 & 11 May	-	4	4
12-May	-	1	1
13-May	-	2	1



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Date - 2020	Total in 3 traps near swedes at Wellesbourne	Total in 3 traps in Tysoe Allotments, Warwickshire set up 26 th March 2020	Total in traps in garden in Tysoe, Warwickshire set up 28 th March 2020 (6 traps)
14 May	-	0	1
15 May	-	1	0
16 May	-	8	2
17 May	-	0	1
18 May	-	5	0
19 May	Traps set up	3	0
20 May	-	12	0
21 May		3	0
22 May	8	0	0
26 May	8	-	-
29 May	4	-	-
2 June	10	-	-
5 June	8	-	-
9 June	27	-	-
12 June	21	-	-
16 June	19	-	-
19 June	27	-	-
23 June	57	-	-
26 June	7	-	-
30 June	24	-	-
3 July	30		
7 July	55		



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Date - 2020	Total in 3 traps near swedes at Wellesbourne
10 July	31
14 July	38
17 July	26
21 July	40
24 July	12
28 July	16
31 July	14
4 August	7
7 August	5
11 August	11
14 August	3
18 August	18
21 August	44
25 August	96
28 August	45
1 September	62
4 September	11
8 September	17
11 September	5
15 September	13
18 September	20
22 September	17
25 September	13
29 September	45



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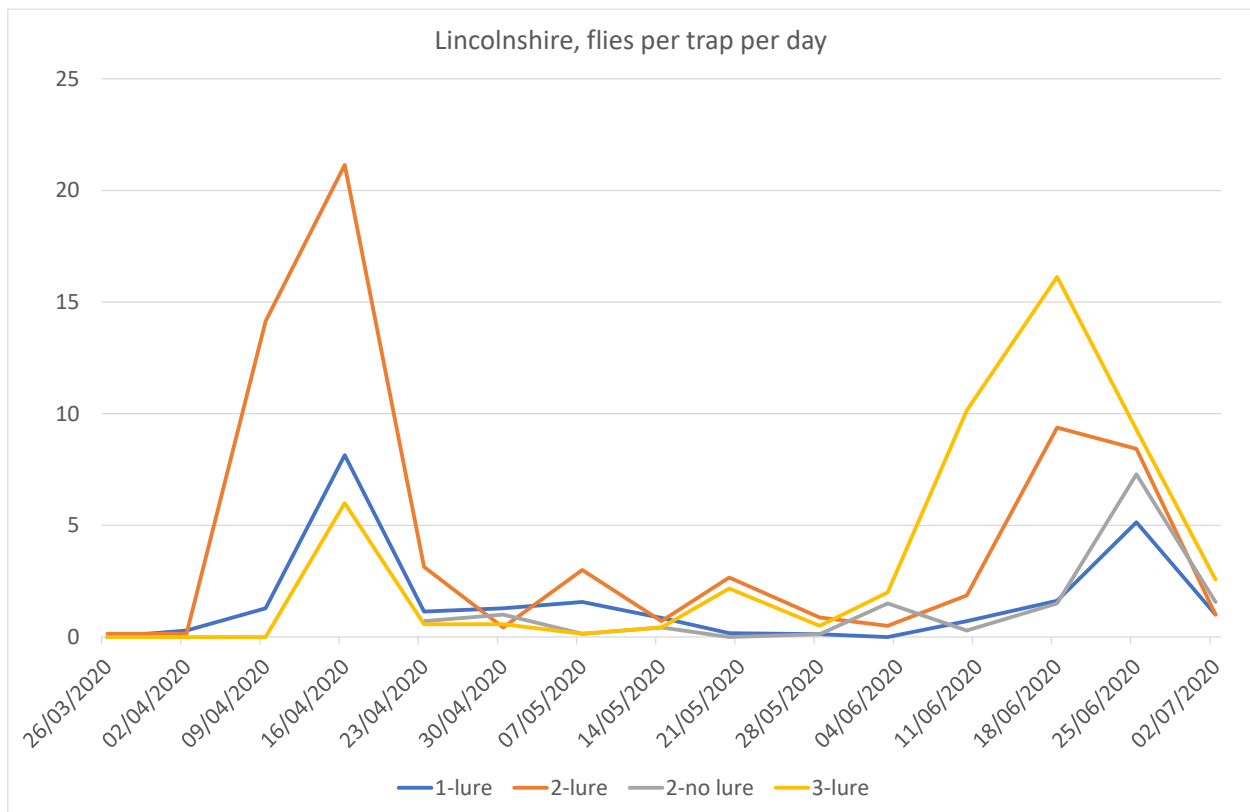
Date - 2020	Total in 3 traps near swedes at Wellesbourne
2 October	9
6 October	23
9 October	19
13 October	11
16 October	10
20 October	13
23 October	25
26 October	61
30 October	95
3 November	201
6 November	21
10 November	9
13 November	33
17 November	122
20 November	107
24 November	60
27 November	28
1 December	22
4 December	12
8 December	6
15 December	42
22 December	37
29 December	28



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Trap captures in 2020 – information from the PGRO team – most of the traps have bean seed fly lures

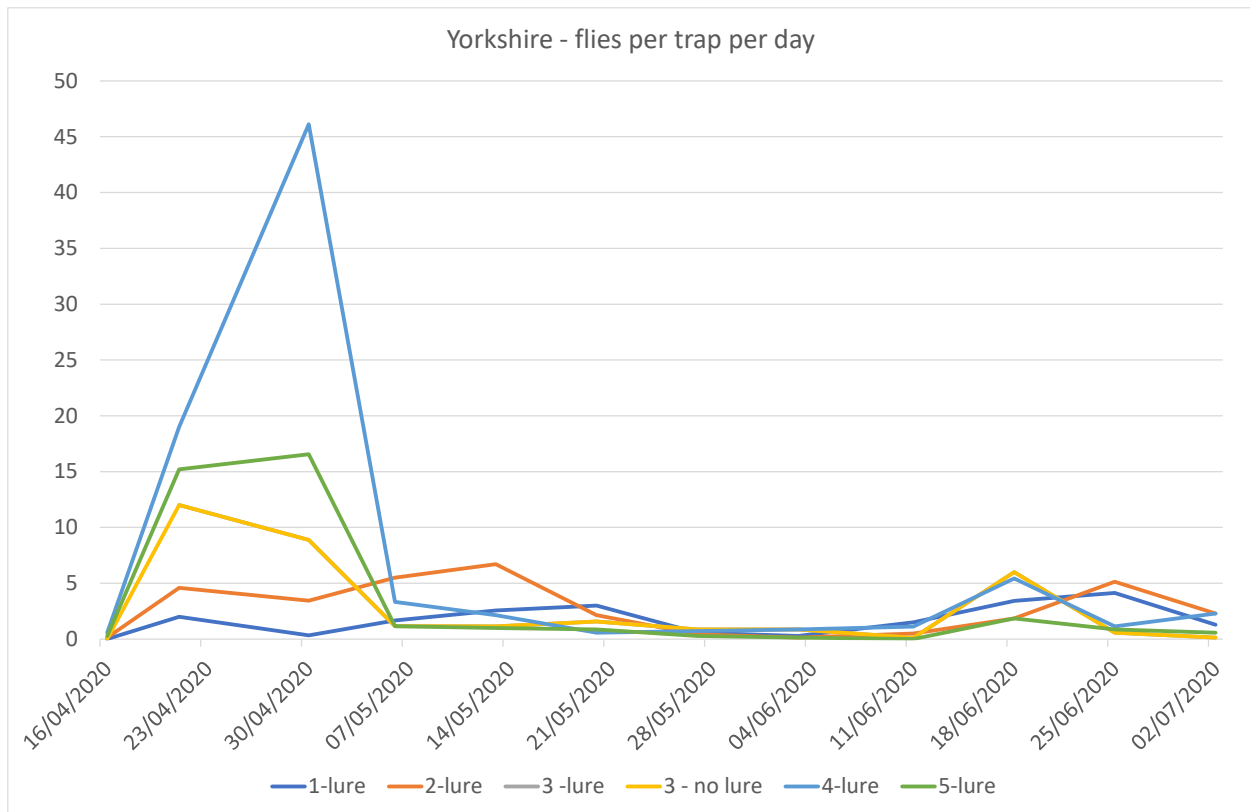




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Trap captures in 2020 – information from the PGRO team – most of the traps have been seed fly lures





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Trap captures in 2020 – information from the PGRO team

