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## CATERPILLAR PESTS OF BRASSICA CROPS – 14 October 2021

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## Introduction

This year we are monitoring diamond-back moth, silver Y moth, cabbage moth, large white butterfly and small white butterfly. Some background on these and other caterpillar pests is below.

### Diamondback moth

- Information from citizen science web sites is summarized on this web page: [Diamondback moth sightings 2021 \(warwick.ac.uk\)](https://warwick.ac.uk/diamondbackmoth)
- Information from commercial crops (pheromone traps sponsored by FMC) is summarized on this web page: [Monitoring diamond-back moth in commercial crops 2021 \(warwick.ac.uk\)](https://warwick.ac.uk/monitoring-diamond-back-moth)
- Pheromone trap captures in Warwickshire will be summarized below as they become available.
- Information for Lincolnshire in the Syngenta Brassica Alert [Brassica Alert | Syngenta](https://www.syngenta.co.uk/brassica-alert)

### Silver Y moth

- Information from citizen science web sites is summarized on this web page: [Silver Y moth sightings 2021 \(warwick.ac.uk\)](https://warwick.ac.uk/silverymoth)
- Pheromone trap captures in Warwickshire will be summarized below as they become available.
- Information for Lincolnshire in the Syngenta Brassica Alert [Brassica Alert | Syngenta](https://www.syngenta.co.uk/brassica-alert)

### Cabbage moth

- Pheromone trap captures in Warwickshire will be summarized below as they become available.

### Small white and large white butterfly

- Pheromone trap captures in Warwickshire will be summarized below as they become available.



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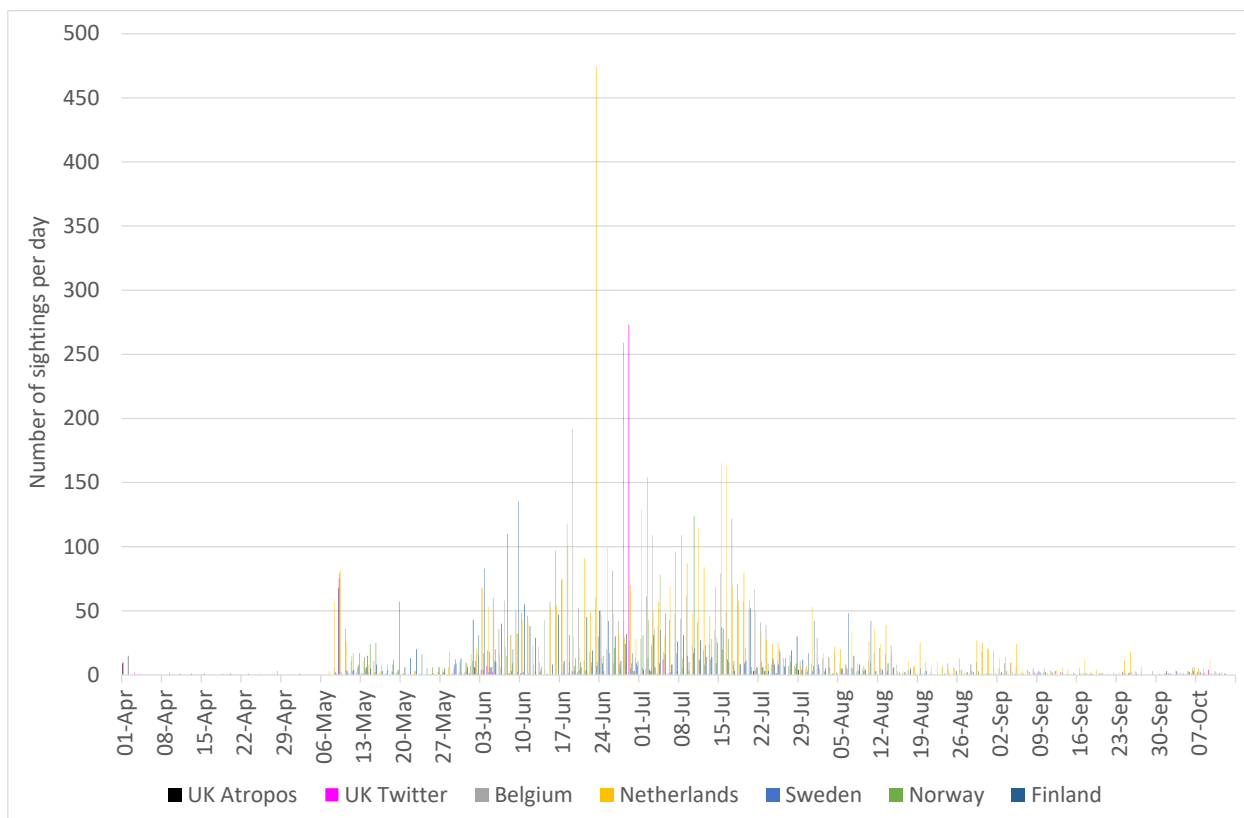


### Diamondback moth – citizen science sightings 2021

You can see the citizen science counts from early April:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/sightings2021/>

The graph below shows sightings by citizen scientists in 2021.



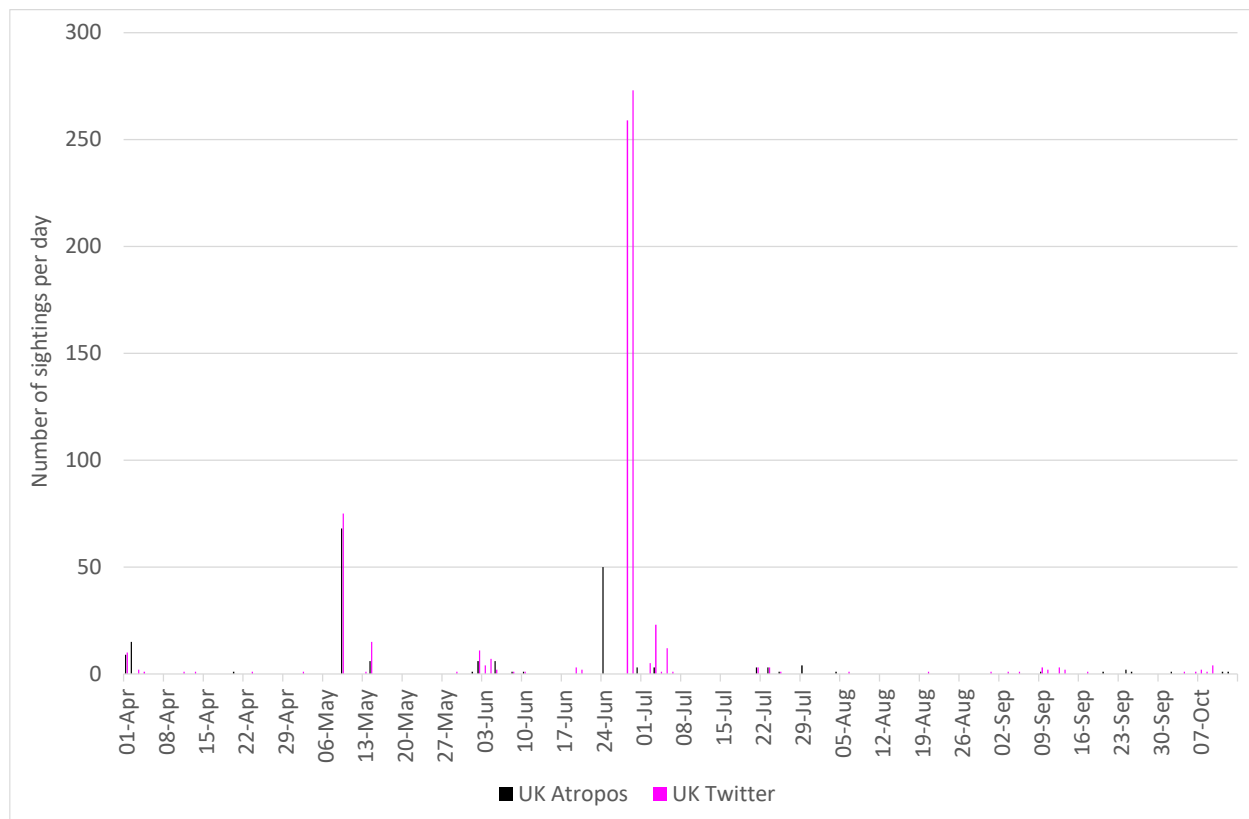


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### Diamondback moth – citizen science sightings 2021

The graph below shows sightings by citizen scientists in the UK in 2021.



## Diamondback moth monitoring in commercial crops 2021 – September

Pheromone traps are being set up in a number of locations in commercial crops. Information from these locations (pheromone traps sponsored by FMC) is summarized on this web page:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/trapping2021>. Captures are summarized below.

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
12 October	Wellesbourne, Warwick	0	2	0
8 October	Wellesbourne, Warwick	0	2	0
5 October	Wellesbourne, Warwick	0	2	0
1 October	Wellesbourne, Warwick	0	2	0
28 September	Wellesbourne, Warwick	0	2	0
24 September	Wellesbourne, Warwick	0	2	0
21 September	Wellesbourne, Warwick	0	2	0
17 September	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
17 September	Wellesbourne, Warwick	0	2	0
15 September	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	2	4	0.25
14 September	Wellesbourne, Warwick	0	2	0
10 September	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
10 September	Wellesbourne, Warwick	1	2	0.5
8 September	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	0	4	0
7 September	Wellesbourne, Warwick	0	2	0
3 September	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
3 September	Wellesbourne, Warwick	0	2	0
1 September	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	1	4	0.25

### Diamondback moth monitoring in commercial crops 2021 – August

Pheromone traps are being set up in a number of locations in commercial crops. Information from these locations (pheromone traps sponsored by FMC) is summarized on this web page:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/trapping2021>. Captures are summarized below.

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
31 August	Wellesbourne, Warwick	0	2	0
27 August	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
27 August	Wellesbourne, Warwick	0	2	0
24 August	Wellesbourne, Warwick	0	2	0
20 August	Wellesbourne, Warwick	0	2	0
20 August	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
18 August	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	17	4	4.25
17 August	Wellesbourne, Warwick	0	2	0
13 August	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
13 August	Wellesbourne, Warwick	0	2	0
11 August	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	6	4	15
10 August	Wellesbourne, Warwick	0	2	0
6 August	Lincolnshire (Kirton, Old Leake, Gosberton)	5	3	1.7
6 August	Wellesbourne, Warwick	0	2	0
3 August	Wellesbourne, Warwick	0	2	0

## Diamondback moth monitoring in commercial crops 2021 – July

Pheromone traps are being set up in a number of locations in commercial crops. Information from these locations (pheromone traps sponsored by FMC) is summarized on this web page:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/trapping2021>. Captures are summarized below.

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
30 July	Wellesbourne, Warwick	0	2	0
27 July	Wellesbourne, Warwick	0	2	0
26 July	Scotland	81	10	8.1
23 July	Wellesbourne, Warwick	0	2	0
22 July	Lincolnshire (Kirton, Old Leake, Gosberton)	1	3	0.3
22 July	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	28 (21 at one site)	4	7
20 July	Wellesbourne, Warwick	0	2	0
19 July	Scotland	41	10	4.1
18 July	Wellesbourne, Warwick	0	2	0
15 July	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	26 (23 at one site)	4	6.5
15 July	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
13 July	Wellesbourne, Warwick	0	2	0
12 July	Scotland	35	10	3.5
12 July	Lancashire	26	6	4.3
9 July	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	2	4	0.5
9 July	Wellesbourne, Warwick	1	2	0.5
8 July	Lincolnshire (Kirton, Old Leake, Gosberton)	3	3	1
6 July	Wellesbourne, Warwick	4	2	2
5 July	Scotland	26	10	2.6
5 July	Lancashire	22	6	3.6
2 July	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	5	4	1.25
2 July	Wellesbourne, Warwick	0	2	0

### Diamondback moth monitoring in commercial crops 2021 – June

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
29 June	Wellesbourne, Warwick	1	2	0.5
28 June	Scotland	13	10	1.3
25 June	Lancashire	18	6	3
25 June	Wellesbourne, Warwick	0	2	0
24 June	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	0	4	0
24 June	Lincolnshire (Kirton, Old Leake, Gosberton)	16	3	5.3
22 June	Wellesbourne, Warwick	2	2	1
21 June	Scotland	26	10	2.6
18 June	Lancashire	28	6	4.6
18 June	Wellesbourne, Warwick	3	2	1.5
17 June	Lincolnshire (Kirton, Old Leake, Gosberton)	5	3	1.7
15 June	Wellesbourne, Warwick	0	2	0
15 June	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	7	4	1.7
4 June	Scotland	9	10	0.9
11 June	Wellesbourne, Warwick	4	2	2
11 June	Lancashire	28	6	4.7
10 June	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	0	4	0
8 June	Lancashire	2	6	0.3
8 June	Wellesbourne, Warwick	5	2	2.5
7 June	Scotland	5	8	6.25
4 June	Wellesbourne, Warwick	3	2	1.5
3 June	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	3	3	1
3 June	Lincolnshire (Kirton, Old Leake, Gosberton)	4	3	1.3
1 June	Wellesbourne, Warwick	0	2	0
1 June	Lancashire	0	6	0



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### Diamondback moth monitoring in commercial crops 2021 - May

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
31 May	Scotland	0	8	0
28 May	Wellesbourne, Warwick	0	2	0
27 May	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	0	4	0
25 May	Lancashire – traps out since 22 <sup>nd</sup> April	0	6	0
25 May	Wellesbourne, Warwick	0	2	0
24 May	Scotland	0	8	0
21 May	Wellesbourne, Warwick	0	2	0
20 May	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	0	4	0
18 May	Wellesbourne, Warwick	1	2	0.5
14 May	Wellesbourne, Warwick	0	2	0
13 May	Lincolnshire (Kirton, Old Leake, Gosberton)	8	3	2.7
13 May	Cornwall (Gwinear, Mithian, Cury Cross, Veryan)	1	4	0.25
11 May	Wellesbourne, Warwick	0	2	0
7 May	Wellesbourne, Warwick	0	2	0
6 May	Cornwall (Gwinear, Mithian, Veryan)	2	3	0.7
6 May	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
4 May	Wellesbourne, Warwick	0	2	0



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### Diamondback moth monitoring in commercial crops 2021 - April

Date	Location	Number of moths	Number of traps	Mean number of moths per trap
30 Apr	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
30 Apr	Wellesbourne, Warwick	1	2	0.5
29 Apr	Cornwall (Gwinear, Mithian, Cury Cross)	3	3	1
27 Apr	Wellesbourne, Warwick	0	2	0
23 Apr	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
23 Apr	Wellesbourne, Warwick (set up 20 Apr)	1	2	0.5
22 Apr	Cornwall (Gwinear, Mithian, Cury Cross)	4	3	1.2
16 Apr	Lincolnshire (Kirton, Old Leake, Gosberton)	0	3	0
14 Apr	Gwinear, Cornwall	1	1	1



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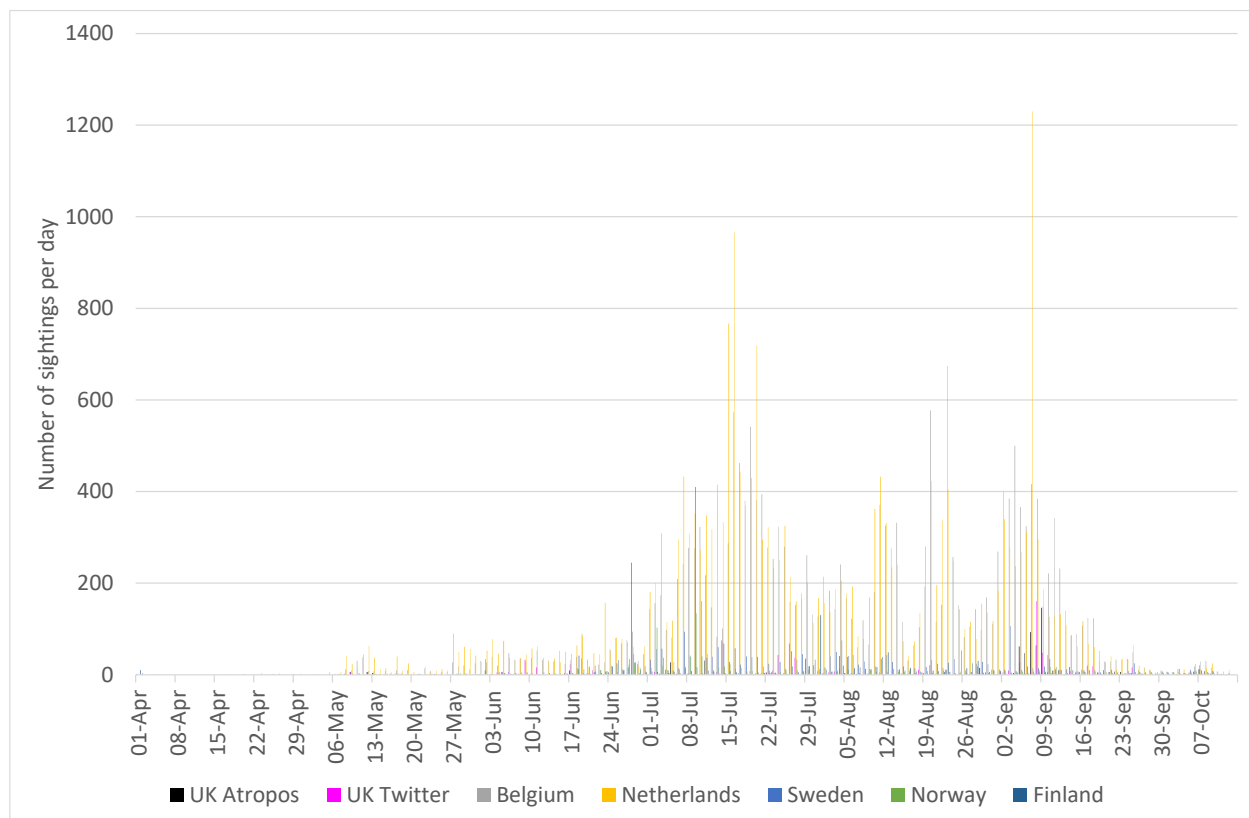


### Silver Y moth citizen science sightings 2021

You can see the citizen science counts here:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/silvery/sysightings2021>

The graph below shows sightings by citizen scientists in 2021.



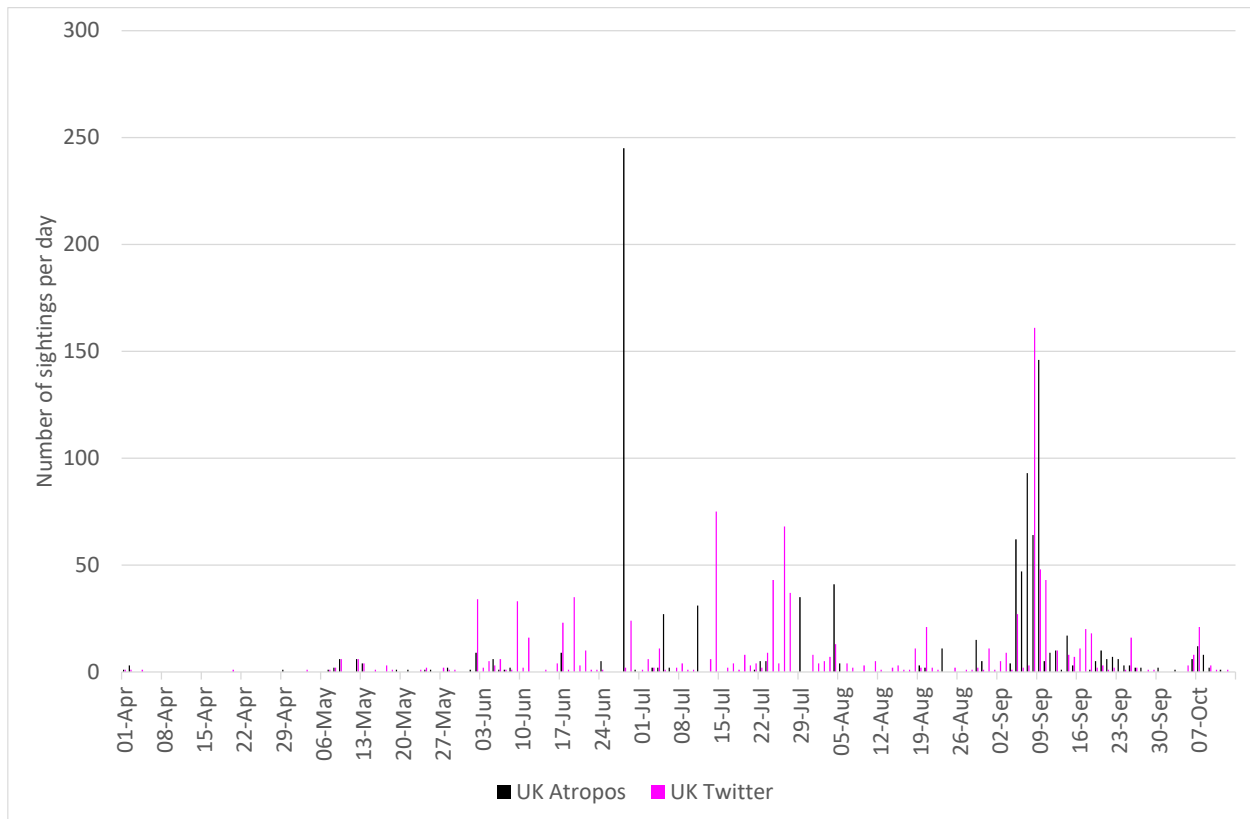


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### Silver Y moth citizen science sightings 2021

The graph below shows sightings by citizen scientists in the UK in 2021.





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Numbers of butterflies and moths captured at Wellesbourne in 2021

Date	Diamond-back moth (2 pheromone traps)	Cabbage moth (2 pheromone traps)	Silver Y moth (2 pheromone traps)	Turnip moth (2 pheromone traps)	Small white butterfly (3 water traps)	Large white butterfly (3 water traps)
23 Apr	1	0	0	0	0	0
27 Apr	0	0	0	0	0	0
30 Apr	1	0	0	0	0	0
4 May	0	0	0	0	0	0
7 May	0	0	0	0	0	0
11 May	0	0	0	0	0	0
14 May	0	0	1	0	0	0
18 May	1	0	0	0	0	0
21 May	0	0	0	0	0	0
25 May	0	0	0	1	0	0
28 May	0	0	0	0	0	0
1 June	0	0	1	4	0	0
4 June	3	0	0	1	0	0
8 June	5	0	0	0	0	0
11 June	4	0	1	1	0	0
15 June	0	0	0	1	0	0
18 June	3	0	0	0	0	0
22 June	2	0	1	3	0	0
25 June	0	0	0	1	0	0
29 June	1	0	0	2	0	0
2 July	0	0	0	3	0	0
6 July	4	0	0	2	0	0
9 July	1	0	1	2	0	0
13 July	0	0	0	0	0	0
16 July	0	0	0	0	1	0
20 July	0	0	0	0	1	0



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**Numbers of butterflies and moths captured at Wellesbourne in 2021**

Date	Diamond-back moth (2 pheromone traps)	Cabbage moth (2 pheromone traps)	Silver Y moth (2 pheromone traps)	Turnip moth (2 pheromone traps)	Small white butterfly (3 water traps)	Large white butterfly (3 water traps)
23 July	0	0	0	0	0	0
27 July	0	0	0	1	1	0
30 July	0	0	0	0	0	0
3 August	0	0	0	0	0	0
6 August	0	0	0	0	0	0
10 August	0	0	0	2	0	0
13 August	0	0	0	1	0	0
17 August	0	0	0	0	0	0
20 August	0	0	0	3	0	0
24 August	0	0	0	2	0	0
27 August	0	0	0	4	0	0
31 August	0	0	0	2	0	0
3 September	0	0	0	1	2	0
7 September	0	0	0	4	4	0
10 September	1	0	0	3	2	0
14 September	0	0	0	4	0	0
17 September	0	0	0	1	0	0
21 September	0	0	0	2	0	0
24 September	0	0	0	0	0	0
28 September	0	0	1	0	0	0
1 October	0	0	0	0	0	0
5 October	0	0	0	0	0	0
8 October	0	0	0	2	0	0
12 October	0	0	0	0	0	0

## Background

The caterpillars of a number of species of moth and butterfly can be pests of brassica crops:

Species	Activity periods	Importance
Small white butterfly ( <i>Pieris rapae</i> )	May/June and late summer – more abundant in late summer	Can be damaging and hard to see on plants
Large white butterfly ( <i>Pieris brassicae</i> )	May/June and late summer – more abundant in late summer	Can be damaging but usually attacks a small number of plants and damage is generally obvious
Cabbage moth ( <i>Mamestra brassicae</i> )	May/June and late summer – more abundant in late summer	Localised pest – can be hard to see on plants when young
Garden pebble moth ( <i>Evergestis forficalis</i> )	May/June and late summer – more abundant in late summer	Localised pest – hard to see on plants
Diamond-back moth ( <i>Plutella xylostella</i> )	Migrant and can arrive at any time – usually from June onwards	Can be very damaging and hard to see on plants when small
Silver Y moth ( <i>Autographa gamma</i> )	Migrant and can arrive at any time from early spring	Rarely causes significant damage on brassicas
Turnip moth (cutworm) ( <i>Agrotis segetum</i> )	Late May-early July, sometimes a second generation in later summer – forecast available	Rarely causes significant damage on brassicas



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## Historical information from 2020

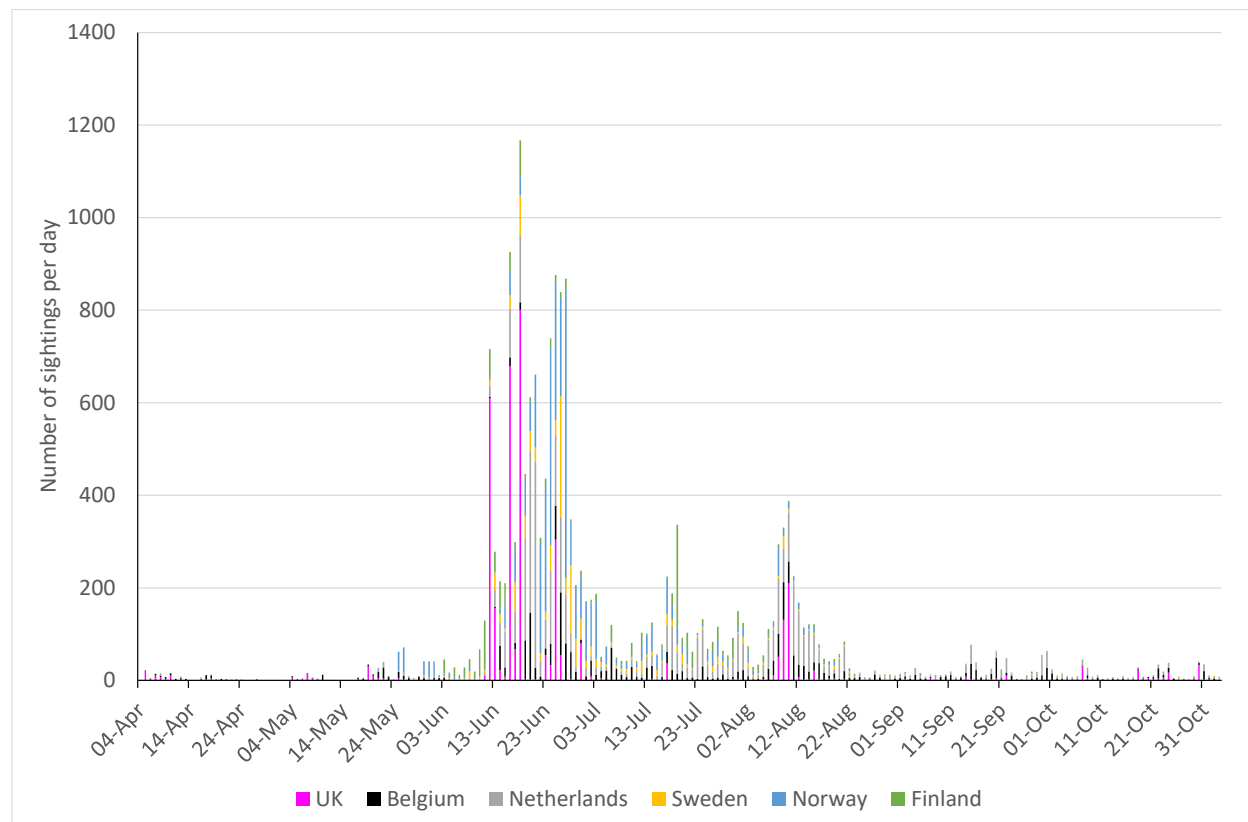
### Monitoring information 2020

#### Diamondback moth

What was probably the first influx of migrant diamondback moths occurred over the weekend 4<sup>th</sup>-5<sup>th</sup> April and you can see the citizen science counts from then on here:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/sightings2020/>

The graph below shows sightings by citizen scientists in 2020.







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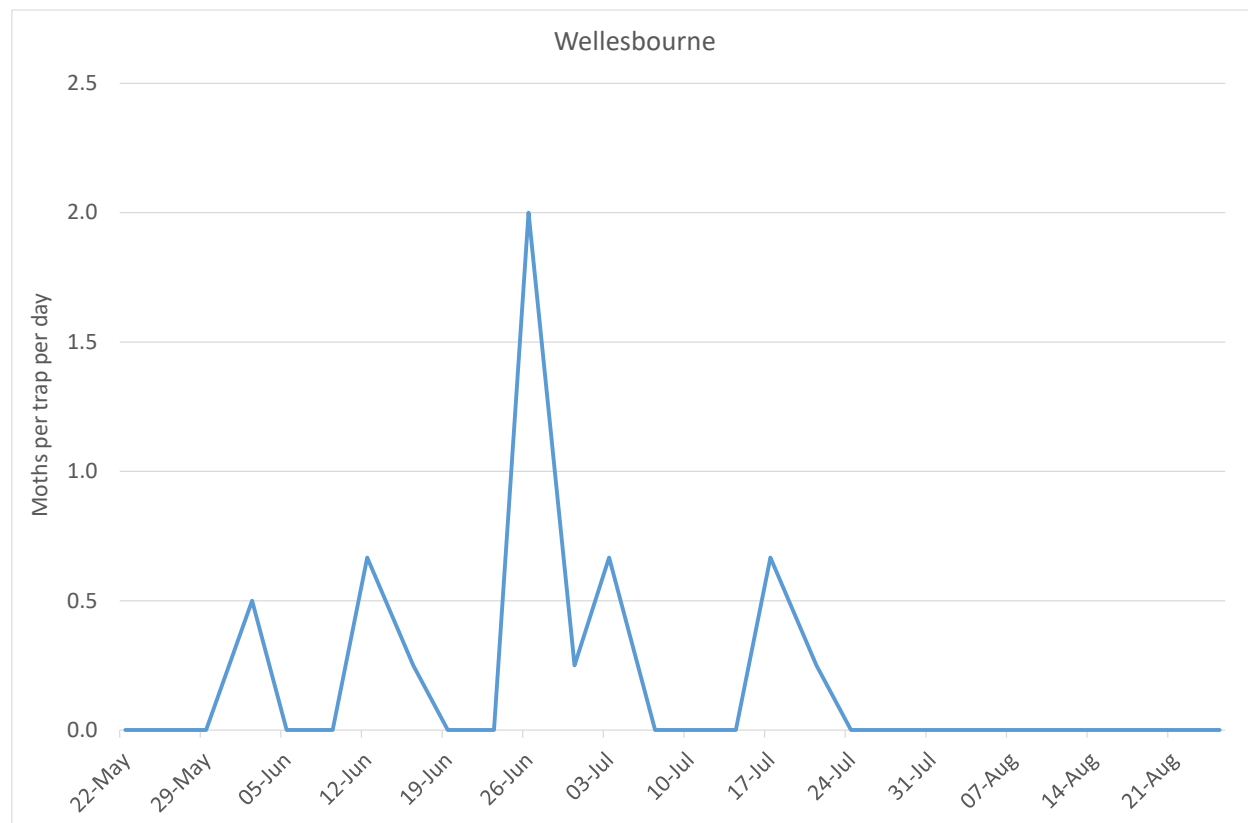


### Diamondback moth monitoring in commercial crops 2020

Pheromone traps were set up in a number of locations in commercial crops. Information from these locations (pheromone traps sponsored by FMC) is summarized on this web page:

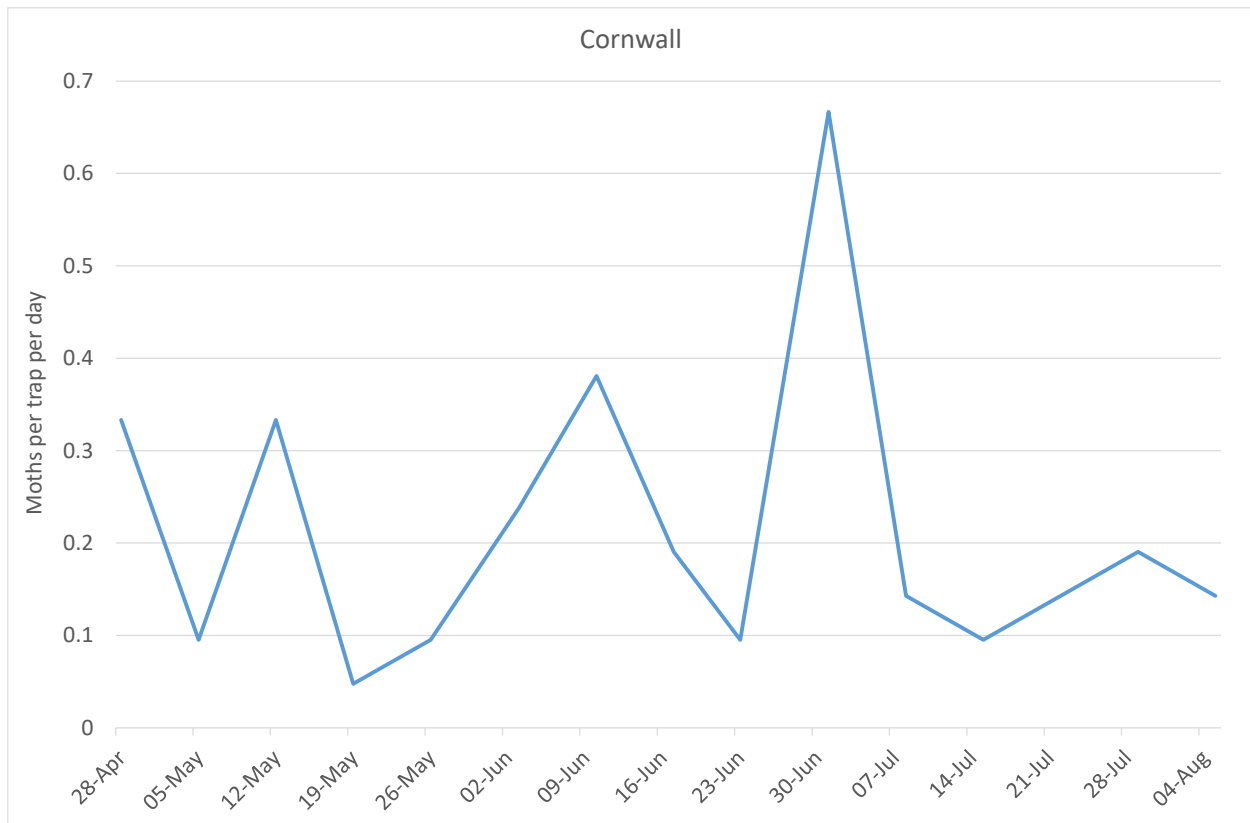
<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/plutella/trapping2020>

Below are summaries from four locations/regions.



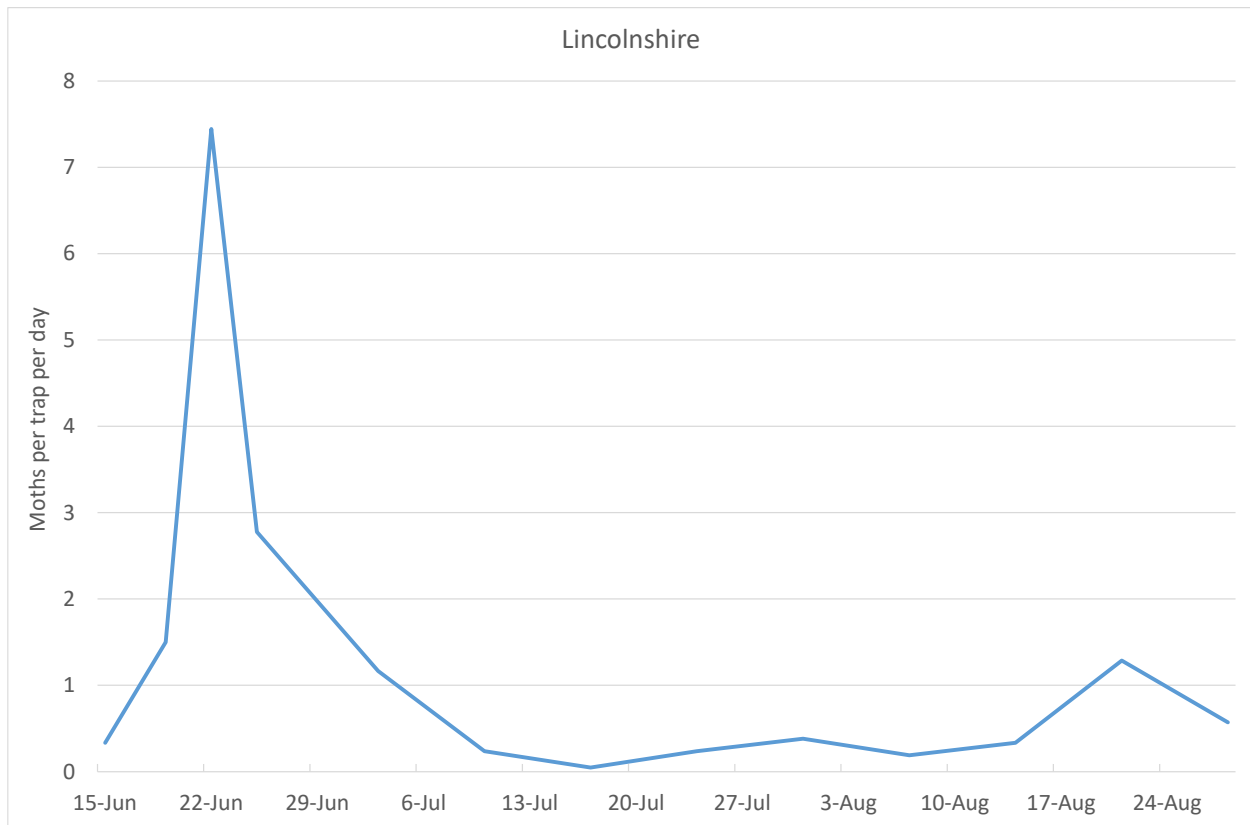


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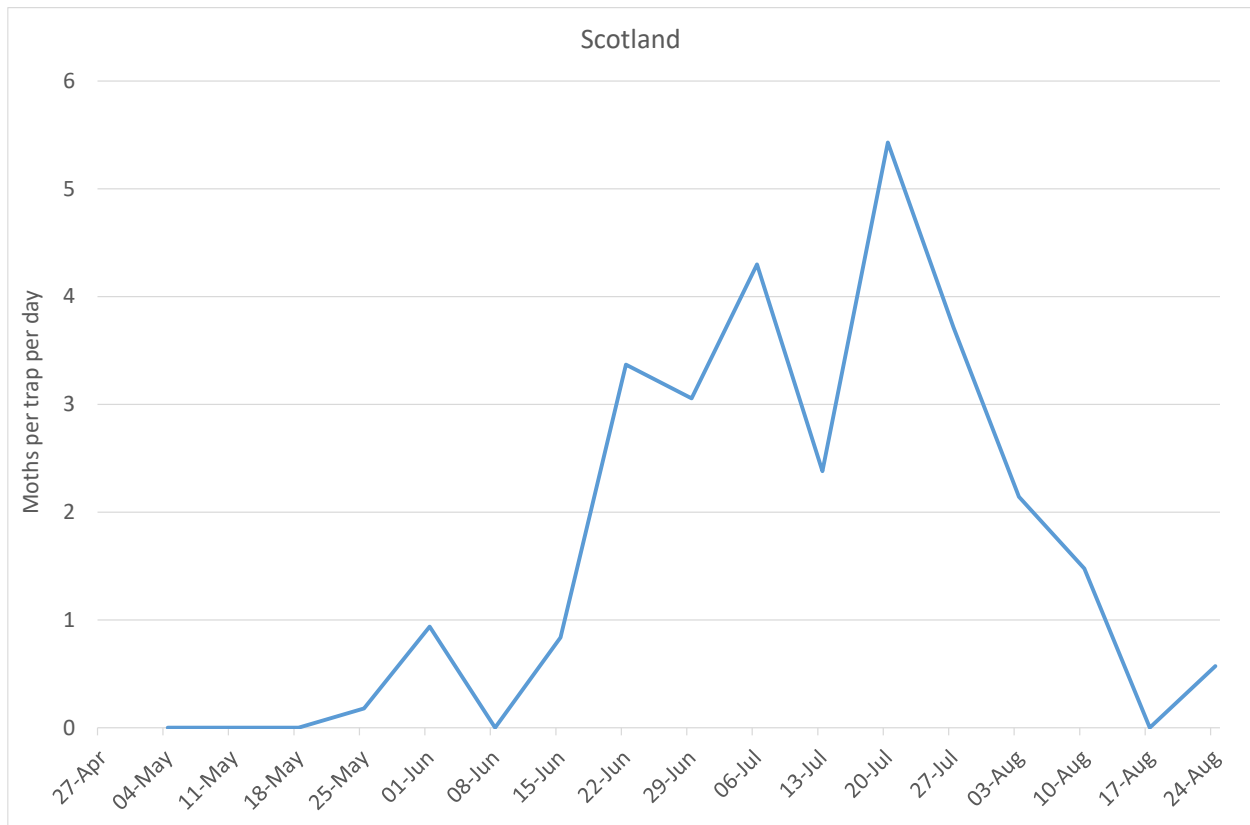


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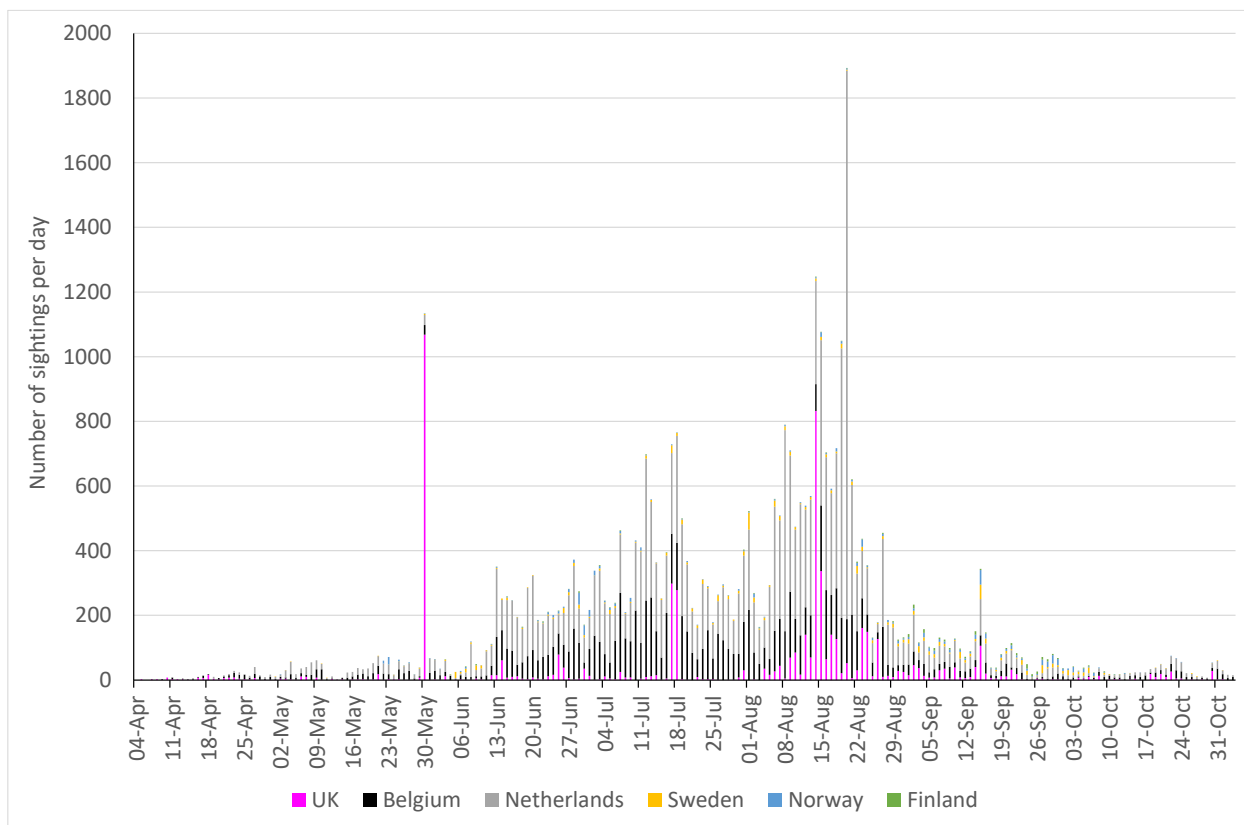


### Silver Y moth 2020

A very small number of silver Y moths were seen at the same time as the first diamondback moths and you can see the counts here:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/pests/silvery/sysightings2020>

The graph below shows sightings by citizen scientists in 2020. There was a large influx of silver Y moths to Ireland/Outer Hebrides around 30<sup>th</sup> May.



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Numbers of butterflies and moths captured at Wellesbourne in 2020.

Date	Diamond-back moth (2 pheromone traps)	Cabbage moth (2 pheromone traps)	Silver Y moth (2 pheromone traps)	Turnip moth (2 pheromone traps)	Small white butterfly (no. water traps)	Large white butterfly (no. water traps)
22 May	0	0	0	1	0	0
26 May	0	0	0	7	0	0
29 May	0	0	0	6	0	0
2 June	2	0	0	7	0	0
5 June	0	0	0	5	0	0
9 June	0	0	1	6	0	0
12 June	2	0	0	2	0	0
16 June	1	0	0	2	0	0
19 June	0	0	1	1	0	0
23 June	0	0	0	0	0	0
26 June	6	0	0	1	0	0
30 June	1	0	0	0	0	0
3 July	2	0	0	1	0	0
7 July	0	0	0	0	2	0
10 July	0	0	0	0	2	0
14 July	0	0	1	0	0	0
17 July	2	0	2	0	3	0
21 July	1	0	0	3	0	0
24 July	0	0	0	2	2	0
28 July	0	0	0	1	0	0
31 July	0	0	0	0	1	0
4 August	0	0	0	0	1	0
7 August	0	0	0	1	1	0
11 August	0	0	0	0	2	0

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Numbers of butterflies and moths captured at Wellesbourne in 2020.

Date	Diamond-back moth (2 pheromone traps)	Cabbage moth (2 pheromone traps)	Silver Y moth (2 pheromone traps)	Turnip moth (2 pheromone traps)	Small white butterfly (no. water traps)	Large white butterfly (no. water traps)
14 Aug	0	0	1	1	3	0
18 Aug	0	0	0 (6 in 3 water traps)	5	3	0
21 Aug	0	0	5	25	8	0
25 Aug	0	0	3	25	1	0
28 Aug	0	0	4	8	1	0
1 Sep	0	0	7 (4 in water traps)	13	4	0
4 Sep	0	0	2	4	5	0
8 Sep	0	0	0	0	4	0
11 Sep	0	0	1	0	1	0
15 Sep	0	0	0	0	2	0
18 Sep	0	0	0	0	0	0
22 Sep	0	0	0	1	0	0
25 Sep	0	0	0	0	0	0
29 Sep	0	0	2	4	0	0
2 Oct	0	0	0	0	0	0
6 Oct	0	0	1	0	0	0
9 Oct	0	0	1	0	0	0
13 Oct	0	0	0	0	0	0
16 Oct	0	0	1	0	0	0
20 Oct	0	0	1	2	0	0
23 Oct	0	0	1	1	0	0
26 Oct	0	0	0	1	0	0
30 Oct	0	0	1	2	0	0
3 Nov	0	0	0	1	0	0