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## **BRASSICA APHIDS**

**30 July 2020**

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### **Introduction**

Brassica crops may be infested by cabbage aphid (*Brevicoryne brassicae*), peach-potato aphid (*Myzus persicae*) or potato aphid (*Macrosiphum euphorbiae*) and these are all species captured in the network of suction traps run by the Rothamsted Insect Survey which also produces a long range forecast of aphid activity and abundance at the end of February each year.

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### Suction trap captures in 2020 - Rothamsted Insect Survey and SASA

The table below summarises suction trap captures for 2020. Cells shaded in grey indicate that information is not available yet from these traps due to COVID-19.

Brevicoryne brassicae	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total
Week ending																	<b>0</b>
05-Apr					0	0		0	0	0	0	0	0	0	0	0	<b>0</b>
12-Apr					0	0		0	0	0	0	0	0	0	0	0	<b>0</b>
19-Apr					0	0		0	0	0	0	0	0	0	0	0	<b>0</b>
26-Apr					0	0		0	1			0	<b>0</b>	<b>2</b>	0	0	<b>3</b>
03-May					0	0		0	0			0	1	1	0	2	<b>4</b>
10-May								4	0			4		3	3	0	<b>14</b>
17-May					0	0		1	0	0	0	1		6		5	<b>13</b>
24-May	0		0					25	63			4			5	5	<b>102</b>
31-May	0	0	0			0		57	331	173		119		38	74	3	<b>795</b>
07-Jun	0	0	0			0	0	12	96	15		202	344		74	6	<b>749</b>
14-Jun						1	1	24	376	41		124			60	46	<b>673</b>
21-Jun			0			0	2	42	1271	365		167		21	70	1	<b>1939</b>
28-Jun		0	0			240	11	61	247	1026	190	61		20	61	0	<b>1917</b>
05-Jul	0	0	0		1	21	0	70	24	82	36	22	9	4	3	5	<b>277</b>
12-Jul	0	0	0		0	6	2	80	8	13	72	12	9	9	7	10	<b>228</b>
19-Jul	0	1	0		0	1	1	26	2	16	12	5	10	1	1	14	<b>90</b>

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<i>Macrosiphum euphorbiae</i>	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total
Week ending																	0
22-Mar					0	0		0	0	0	0	0	0	0	0	1	1
29-Mar					0	0		0	0	0	0	0	0	0	0	0	0
05-Apr					0	0		0	0	0	0	0	1	0	0	1	2
12-Apr					0	0		0	0	0	1	1	13	0	1	1	17
19-Apr					0	0		1	1	0	1	0	0	5	2	1	11
26-Apr					0	0		5	8			3	2	5	9	4	36
03-May					0	0	0	1	1			0	2	0	0	0	4
10-May								4	1			2		2	4	4	17
17-May						0	0	0	0	0	0	0		0		2	2
24-May	0		0					3	5			3			10	5	26
31-May	0	1	2			0		11	4	7		8		15	21	6	75
07-Jun	0	1	11			1	0	9	0	5		6	12		19	10	74
14-Jun					4	9	16	14	6			13			10	19	91
21-Jun			5		4	10	6	30	34			12		7	4	0	112
28-Jun		2	1			19	3	1	5	6	2	4		3	2	0	48
05-Jul	0	2	0		2	2	1	1	5	2	3	0	1	0	0	0	19
12-Jul	0	1	2		4	0	0	0	1	0	3	2	0	0	1	1	15
19-Jul	0	0	0		0	0	0	0	0	2	0	0	2	0	0	0	4

<i>Myzus persicae</i>	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total
Week ending																	0
05-Apr					0	0		0	0	0	0	0	0	0	0	0	0
12-Apr					0	0		0	2	2	0	2	1	0	0	1	8
19-Apr					0	0		2	2	0	0	1	2	0	0	29	36
26-Apr					0	0		0	1			8	1	3	3	6	22
03-May					0	0	1	2	40			6	33	0	0	2	84
10-May								63	9			9		2	5	0	88
17-May						0	0	4	12	53		33		14		4	120
24-May	0		0					103	781			120			66	4	1074
31-May	0	0	7			0		338	1764	75		281		176	144	20	2805
07-Jun	0	0	1			39	43	92	173	251		301	284		296	50	1530
14-Jun						267	93	25	48	149		63			121	15	781
21-Jun			2			46	232	50	209	210		40		7	29	2	827
28-Jun		3	6			376	102	26	39	44	119	10		1	10	0	736
05-Jul	1	1	2		1	30	1	7	5	14	44	8	1	0	2	0	117
12-Jul	0	5	1		0	6	0	31	3	2	21	2	2	0	1	1	75
19-Jul	0	3	0		0	2	2	6	2	0	1	1	2	0	1	2	22



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**AHDB yellow water trap data**

AHDB supports the provision of aphid count data from a network of yellow water traps. The aphids are identified by staff at Fera.

All the individual counts are available at: <https://secure.fera.defra.gov.uk/aphmon/>. You can click on a region on the map to see the counts in more detail.

Although the focus of the commentary on the site is on aphids that transmit potato viruses, there are graphs to show the weekly counts of individual aphid species. The most recent counts for aphids of interest are summarised below:

Region	No. of samples taken between 15/07/2020 to 23/07/2020	Average Brevicoryne brassicae per sample	Average Macrosiphum euphorbiae per sample	Average Myzus persicae per sample
North Scotland	17	0.1	0.1	0.1
Grampian	18	0.2	0.2	1.3
Angus & Perthshire	11	0.1	-	0.1
Borders	10	-	-	0.1
Northern England	16	0.3	-	0.8
East Anglia	8	0.1	-	0.1
Midlands	10	1.9	-	0.7
South-West	7	-	-	0.3
<b>Total</b>	<b>97</b>	<b>0.3</b>	<b>0</b>	<b>0.5</b>



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### **Rothamsted Insect Survey long term forecasts**

[The Rothamsted Insect Survey long-term forecasts for 2020 can be found here.](#)

They cover cabbage aphid, peach-potato aphid and potato aphid.

#### Spring 2020 commentary

The 2020/21 winter was the fifth wettest on record in Britain, with several Atlantic storms. Relatively mild conditions resulted in average January–February air temperatures being above the 30-year average: Scotland and Northern England (+0.5–1.5 °C), Kirton southwards (+2 °C) and Silwood (+2.5 °C).

In the absence of abnormal conditions this spring, generally, aphids will fly about 1–3 weeks earlier in Scotland and Northern England and about 4 weeks earlier over much of the rest of England (from the Wash southwards) than average, with Silwood potentially being about 5 weeks earlier.

Long-term (56 years in 2020) aphid data (from the suction-trap network) and weather data (Met Office and others) is used to forecast the date of the first aphid flights, as well as aphid abundance in spring and early summer. The best predictor of the timing and size of aphid migration is the mean temperature in January and February. Temperatures in November/December and March/April have little apparent impact.

Although there is considerable uncertainty associated with actual first flight dates at specific sites, the forecasts provide an indication of how early or late flights will take place, compared with an ‘average’ season. Confidence is greatest for aphid species that pass the winter in the active stages (rather than as cold-hardy eggs in diapause), as they are more susceptible to low winter temperatures and can take advantage of warm conditions.

The peach–potato aphid (*Myzus persicae*) and potato aphid (*Macrosiphum euphorbiae*) pass winter in the active stages.

Mealy cabbage aphid (*Brevicoryne brassicae*) overwinter mainly in the active stages. However, as the latter flies later it is more difficult to predict. Therefore, for this species, the forecast also uses December temperatures.

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### Historical data on suction trap captures in 2019

Brevicoryne brassicae	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total
Week ending																	0
31-Mar																	0
07-Apr																	0
14-Apr																	0
21-Apr													2	1		1	4
28-Apr									1				1				2
05-May								1	2				3				6
12-May								1		1							2
19-May							1			6	3	3					13
26-May				1					21	4	6	8	1	2		5	48
02-Jun			1					10	72	1	3					1	88
09-Jun								16	16	2	10		59			1	104
16-Jun			1		2			2	1	12		1	12			2	33
23-Jun			1			4		14		12	3		20				54
30-Jun							4			4			2	2		5	17
07-Jul							4	4	2	1		1	24			3	39
14-Jul					2		6	2			2	3	6			5	26
21-Jul					1			1	2	1		1	11			5	22
28-Jul											2			1		4	7
04-Aug						1				1						1	4
11-Aug														1			1
18-Aug																	0
25-Aug										1							1
01-Sep																	0
08-Sep														1			1
15-Sep								3	1								4
22-Sep							1	11	1			1					14
29-Sep								20									20
06-Oct								4									4
13-Oct																	0
20-Oct																	0

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### Historical data on suction trap captures in 2019

Macrosiphum euphorbiae	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total
Week ending																	0
31-Mar																1	1
07-Apr							1										1
14-Apr													1				1
21-Apr							3						4	2		5	14
28-Apr			2				1			1		1	1			1	7
05-May		1	1				1		2	1	1		3	8			18
12-May				1				1	5	5	3		2	2			19
19-May	1	1	2	1	3	1	8	1	3	5	5	7		5		5	48
26-May							2	1	8	4	8	13		5		2	43
02-Jun	2		1	3			20	1	6	14	8	1		10		13	79
09-Jun	4		2	4		8	37	4	6	18	29	15	17	14		21	179
16-Jun		1	1		4	4	9	7	2	19	20	4	5	3		19	98
23-Jun		3	3		1		11	8		48	43	22	8	14		13	174
30-Jun	4	4	8						8	12	21		2			13	72
07-Jul		3			1					1	16					2	23
14-Jul		3	3		1		2				6						15
21-Jul	2	5	1									2				1	11
28-Jul																	0
04-Aug	2																2
11-Aug							4								1		5
18-Aug																	0
25-Aug																	0
01-Sep																	0
08-Sep																	0
15-Sep													1				1
22-Sep																	0
29-Sep																	0
06-Oct																	0
13-Oct																	0
20-Oct		1															1

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### Historical data on suction trap captures in 2019

<i>Myzus persicae</i>	Inverness	Dundee	Edinburgh	Ayr	Newcastle	FERA, York	Preston	Kirton	Broom's Barn	Wellesbourne	Hereford	Rothamsted	Writtle	Ascot	East Malling	Starcross	Total	
Week ending																		0
31-Mar																		0
07-Apr																		0
14-Apr																		0
21-Apr						1			2	1		5	4	1		2		16
28-Apr						1		1	2		1	3	6	2				16
05-May		2				5		2	28	2	1	4	20	1		1		66
12-May						1		1	32	13	2	5	9	9		1		73
19-May				1	1	9	1		74	18	13	26	2	10		5		160
26-May		1						8	116	54		96	2	8		6		291
02-Jun			1			4	4	61	244	27	9	32		2		9		993
09-Jun	1	5			1	42	6	71	558	60	57	21	61	4		13		900
16-Jun		12	2	1	6	94	10	57	95	84	16	6	46	3		14		446
23-Jun		14	8		3	65		172	72	162	46	58	36	4		26		666
30-Jun	2	14	6			104	36	8	5	34	3	6	9			45		272
07-Jul		17	5	1	1	24		6	3	5	29	5		2		8		106
14-Jul	3	66	27	2	8	10	6	2		5						6		135
21-Jul	1	43	7	1	6	2			1	1	3	1				3		69
28-Jul	2	9	4		3	1		3			1	1				1		25
04-Aug	13	7	4															24
11-Aug	1															2		3
18-Aug		2																2
25-Aug		1											1			1		3
01-Sep						2												2
08-Sep		1	2		1	1			1		2							8
15-Sep		1	1			1	1			1								5
22-Sep	1	1	2		1	14		6	2	3	1	1	1	1		4		38
29-Sep		8	3			38		15	1	6			1		1	3		76
06-Oct		2		1	1	28		6	3	8	1		2		6	4		62
13-Oct						70	4	12	1	2	2		4		1	2		98
20-Oct			1		1	7		35	6	5	1	1	5	1	8	2		73