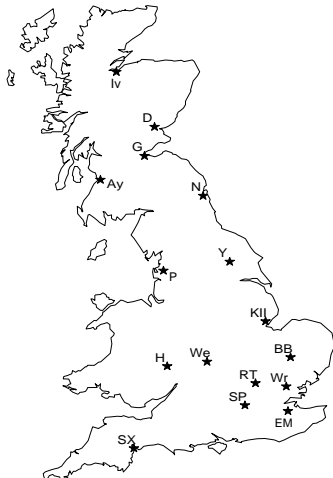


RIS Aphid forecast (7th March 2023)



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Potato and Brassica Aphids forecast 2023



Suction-trap network sites

The 59 years of aphid data from our suction-trap network, combined with the equivalent run of weather data available from the Met Office and others, make it possible to establish relationships between weather and the timing of the start of aphid flights and aphid abundance in spring and early summer. The temperatures in January and February appear to reset aphid activity each year with temperatures in November/December or March/April having little apparent impact. Therefore, the best predictor is the mean temperature in January and February, and confidence is greatest for those aphid species which pass the winter in the active stages (as opposed to as eggs), this includes Peach-potato aphid (*Myzus persicae*) and Potato aphid (*Macrosiphum euphorbiae*). This is because active stages are susceptible to low winter temperatures but can take advantage of warm conditions, whereas eggs are very cold hardy and in diapause, so don't respond to warm conditions in mid-winter. An exception is the Mealy Cabbage aphid (*Brevicoryne brassicae*) which overwinters mainly in the active stages, it flies later and is more difficult to predict, thus December temperature is also taken into account for this aphid.

Suction-trap sites:	Monthly mean temp °C		Mean
	Jan	Feb	Jan-Feb
Dundee (D)	3.86	5.60	4.73
Gogarbank (G)	4.92	6.37	5.64
Ayr (Ay)	5.28	data not yet available	
Newcastle (N)	5.28	7.02	6.15
Preston (P)	5.50	6.29	5.89
Kirton II (K)	5.00	6.70	5.85
Broom's Barn (BB)	4.97	6.56	5.77
Wellesbourne (We)	5.10	6.24	5.67
Hereford (H)	5.45	6.85	6.15
Rothamsted (RT)	4.63	5.90	5.27
Writtle (Wr)	4.96	5.66	5.31
Silwood (SP)	5.21	5.48	5.35
Starcross (SX)	5.56	6.61	6.08

This winter, air temperatures have been warmer than the long-term average across most of Britain. January-February air temperatures were around 1.0°C warmer than on average in Scotland and Northern England and to around 0.5°C warmer than average across much of Southern England. This suggests that the first flight may be between 2 weeks earlier in Scotland and Northern England to 1 week earlier across Southern England.

The general message is that, if spring does not throw any abnormal conditions at us, aphids will be flying around 2 weeks earlier in Scotland and Northern England and up to 1 week earlier over much of Southern England compared with when they would be expected to historically.

[N.B. we will send an amended aphid forecast sheet if any additional Scottish site data becomes available]

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The tables give the following information for Peach—potato aphid (*Myzus persicae*), Potato aphid (*Macrosiphum euphorbiae*) and Cabbage aphid (*Brevicoryne brassicae*):

i) The predicted date range of first capture at the listed sites, together with the position of this year's prediction out of all years of trap operation (e.g. =15/55 = tied 15th earliest out of 55 years).

ii) for Peach—potato aphid and Potato aphid, the predicted numbers caught by 17th June.

iii) For Cabbage aphid by 7th October, together with the position of this year's prediction out of all years of trap operation (e.g. =10/53 = tied 10th largest number out of 53 years).

By no means is all the variability in the aphid data captured by winter temperature, this data should therefore be interpreted with caution.

Peach—potato aphid (<i>Myzus persicae</i>)					
Site	1st capture in suction trap		Numbers to 17th June		
	Prediction date range (75% Confidence limits)	Ranking	Predicted	75% Confidence limits	Ranking
Dundee	(4 May - 26 June)	=15/55	3	(0 - 10)	=10/53
Gogarbank	(2 May - 15 June)	=13/54	5	(1 - 18)	=10/54
Ayr	data not yet available				
Newcastle	(19 April - 10 June)	=9/55	10	(3 - 31)	10/55
Preston	(6 April - 9 June)	=16/47	20	(5 - 67)	10/47
Kirton	(6 April - 10 May)	=9/44	92	(23 - 366)	12/44
Broom's Barn	(5 April - 8 May)	=12/59	195	(33 - 1132)	14/59
Wellesbourne	(24 February - 5 May)	5/17	353	(80 - 1554)	8/15
Hereford	(8 April - 19 May)	9/51	58	(13 - 255)	10/50
Rothamsted	(9 April - 10 May)	13/59	77	(21 - 281)	15/59
Writtle	(27 March - 16 May)	=16/49	123	(31 - 485)	=18/49
Silwood Park	(10 April - 21 May)	16/44	26	(7 - 93)	16/42
Starcross	(19 March - 19 May)	=17/54	25	(8 - 79)	15/52

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Potato aphid (<i>Macrosiphum euphorbiae</i>)					
Site	1st capture in suction trap		Numbers to 17th June		
	Prediction date range (75% Confidence limits)	Ranking	Predicted	75% Confidence limits	Ranking
Dundee	(24 April - 11 June)	16/55	7	(2 - 25)	=17/53
Gogarbank	(15 April - 28 May)	10/55	28	(8 - 97)	=11/54
Ayr	data not yet available				
Newcastle	(21 April - 30 May)	8/55	12	(3 - 40)	=13/55
Preston	(18 April - 22 May)	10/47	24	(10 - 55)	=8/47
Kirton	(4 April - 13 May)	=9/44	34	(11 - 102)	10/44
Broom's Barn	(9 April - 19 May)	=13/59	20	(7 - 54)	=13/59
Wellesbourne	(16 April - 15 May)	6/18	31	(9 - 100)	6/15
Hereford	(10 April - 13 May)	=6/51	33	(10 - 104)	13/50
Rothamsted	(12 April - 21 May)	18/59	20	(7 - 59)	=21/59
Writtle	(31 March - 12 May)	18/49	34	(12 - 94)	=21/49
Silwood Park	(10 April - 13 May)	16/44	27	(9 - 80)	=15/42
Starcross	(29 March - 14 May)	=15/53	27	(10 - 70)	=18/52

Cabbage aphid (<i>Brevicoryne brassicae</i>)					
Site	1st Capture in suction trap		Numbers to 7th October		
	Prediction date range (75% Confidence limits)	Ranking	Predicted	75% Confidence limits	Ranking
Dundee	(9 June - 30 August)	23/51	9	(1 - 55)	=19/48
Gogarbank	(21 May - 12 August)	18/50	8	(2 - 34)	14/47
Ayr	data not yet available				
Newcastle	(30 May - 24 July)	15/53	13	(2 - 54)	=14/49
Preston	(6 May - 15 July)	23/47	23	(5 - 91)	16/43
Kirton	(23 April - 24 June)	18/44	168	(35 - 799)	14/41
Broom's Barn	(8 May - 11 June)	21/59	235	(46 - 1176)	23/57
Wellesbourne	(5 May - 16 June)	13/17	237	(36 - 1528)	6/11
Hereford	(26 April - 7 June)	=14/50	316	(57 - 1722)	15/45
Rothamsted	(8 May - 25 June)	=26/59	90	(13 - 569)	24/58
Writtle	(6 May - 13 June)	27/49	297	(53 - 1652)	25/46
Silwood Park	(3 May - 21 June)	=21/41	69	(11 - 395)	17/36
Starcross	(15 April - 6 June)	25/52	142	(44 - 456)	24/45

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Further information

Please send information on crop aphids to:

alex.greenslade@rothamsted.ac.uk

james.bell@rothamsted.ac.uk

Rothamsted Insect Survey: [Click here](#)

Science and Advice for Scottish Agriculture (SASA): [Click here](#)

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