



APHID ALERT SUMMARY

This alert summarises up-to-date results from the Rothamsted/SASA suction-trap (ST) network and the FERA yellow water-pan trap (YWT) network. Further details of the ST results can be found below and further details of the YWT results can be found at www.potato.org.uk/online-toolbox/aphid-monitoring.

GENERAL

The recent warm weather broke towards the end of the week, but average UK temperatures remain 2°C above normal. Aphid flight activity was about normal for the time of year, but the warm conditions suggest that any aphids that have found untreated crops will be happily reproducing.

WINTER CEREALS

Numbers of bird cherry–oat aphid (*Rhopalosiphum padi*) continued rising at 10/14 suction-trap sites with highest numbers in Scotland and northern England. Numbers of grain aphid (*Sitobion avenae*) are about normal, with highest numbers in Scotland and south east England. Drilling of winter wheat and winter barley is well underway. The earliest sown crops have emerged with the first leaf unfolded (GS11), whilst many more are yet to emerge. We have received no field reports of cereal aphids on new season winter crops, but many reports of aphid colonies on cereal volunteers, particularly barley volunteers in Oilseed rape crops.

Only a small proportion of aphids entering cereals are likely to be carrying BYDV. Problems with spread arise when the second generation offspring of the original winged colonisers are produced. This is usually the generation that begins moving significantly away from the plant originally colonised. Very approximately this begins when 170 day degrees above a threshold of 3°C (DD>3) have accumulated. For example, if the average temperature on a particular day was 13°C, 10DD>3 would have accumulated that day, meaning that it would take 17 days at that temperature to reach the 170DD>3. Once this generation becomes adult (after about 340DD>3) very significant spread can occur. DD>3 calculations should begin on the day of emergence for untreated crops, 1 week after application of pyrethroids or if aphids are found when neonicotinoid-treated seed protection runs out (i.e. approx. 6 weeks after emergence or 8 weeks after sowing).

WINTER OILSEED RAPE and VEGETABLE BRASSICAS

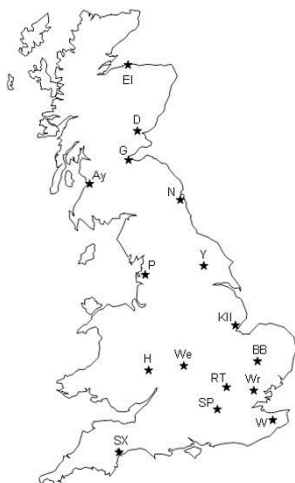
Peach–potato aphids (*Myzus persicae*) were caught at nine suction-trap sites, with highest numbers in eastern England and at Dundee. Numbers of the mealy cabbage aphid (*Brevicoryne brassicae*) were low but normal for the time of year. Winter oilseed rape drilling is largely complete and earliest drilled crops are at GS1,3 – 1,8, whilst later drillings are yet to emerge. We have one field report from eastern England of peach–potato aphids colonising emerging oilseed rape that has survived the onslaught of Cabbage stem flea beetle.

OTHERS

Aphids are no longer an issue in most other crops either because the crop is too mature to be vulnerable or the crop has been harvested. The pea harvest is virtually complete and the winter bean harvest is progressing well. Most remaining potato crops are now senescing or have been burnt off. In carrots the period of likely virus transmission is probably passed and any willow-carrot aphids flying in the next few weeks will be returning to willow.

As always, we appreciate any intelligence from the field and any comments on the information we provide.

SUCTION-TRAPPING RESULTS



Winter Cereal Aphids

The **bird cherry–oat aphid**, *Rhopalosiphum padi*, flies in autumn as two morphologically identical female forms, one of which colonises bird cherry and is of no consequence to BYDV spread, and one of which colonises winter cereals. A simple test requiring live aphids can distinguish these forms and is routinely done at Rothamsted, but not elsewhere in the suction-trap network. During the **period 12-22Sept. 14** *R. padi* were tested, **11** were of the cereal colonising form (30 year mean for the same period = 7).

The table below shows total numbers of female bird cherry–oat aphid caught during the week **12/9-18/9** and compares them to last year and a ten year mean for that week. English grain aphids always fly in much lower numbers than bird cherry–oat aphids in the autumn.

- Numbers of bird cherry–oat aphid continued rising at 10/14 sites this week. Numbers were highest in the north, but close to or a little below the 10-yr means further south.
- The grain aphid was caught at eight sites, with highest numbers at Dundee, Edinburgh and Writtle.

'*' indicates where totals have been corrected proportionally to seven days, fewer days' samples having been processed. '/' indicates that identification have not been completed.

<i>Sitobion avenae</i>				12/09-18/09	<i>Rhopalosiphum padi</i> - females only			
Compared to last week	2016	2015	2006-2015		Compared to last week	2016	2015	2006-2015
↓	15	/	0	Dundee	↑	810	0	146
↑	11	13	4	Gogarbank (Edinburgh)	↑	955	352	468
↓	*5	5	2	Newcastle	↓	*418	269	314
↓	*0	0	/	York	↑	*130	173	/
	*0	2	1	Preston	↑	*684	1904	1266
	*4	0	2	Kirton	↑	*77	64	160
↑	*3	3	2	Broom's Barn (Bury St Edmunds)	↑	*123	15	185
↓	*0	0	3	Wellesbourne	↑	*125	40	208
↓	*0	2	3	Hereford	↓	*123	81	152
	*0	0	1	Rothamsted (Harpenden)	↓	*55	20	110
↑	*11	0	2	Writtle	↑	*121	43	118
↑	*7	0	1	Silwood Park (nr Ascot)		*81	33	107
	*0	0	2	Wye	↑	*212	24	147
↑	*1	0	2	Starcross (nr Exeter)	↑	*246	80	210

Winter Oilseed Rape and Vegetable Brassica Aphids

The main aphid vector of TuYV is the **peach–potato aphid**, *Myzus persicae*, but it seldom reaches numbers high enough to cause direct feeding damage. Conversely the **mealy cabbage aphid**, *Brevicoryne brassicae*, is a poor vector of TuYV, but can cause direct feeding damage to isolated plants. This species is more of a problem in spring than in autumn.

- The peach–potato aphid was caught at nine suction-trap sites, with highest numbers in eastern England and at Dundee.
- The mealy cabbage aphid was caught at six sites, with highest numbers at Starcross.

<i>Brevicoryne brassicae</i>				12/09-18/09	<i>Myzus persicae</i>			
Compared to last week	2016	2015	2006-2015		Compared to last week	2016	2015	2006-2015
↑	1	/	1	Dundee	↓	11	/	1
	0	0	0	Gogarbank (Edinburgh)	↓	0	2	0
	*0	0	0	Newcastle		*0	0	1
	*0	0	/	York		*0	0	/
↑	*4	0	0	Preston		*0	1	1
↓	*1	1	3	Kirton	↑	*13	3	3
	*0	0	1	Broom's Barn (nr Bury St Edmunds)	↑	*14	0	3
↑	*1	0	1	Wellesbourne	↓	*4	0	6
↑	*4	0	3	Hereford	↓	*3	0	3
	*0	0	0	Rothamsted (Harpenden)	↑	*6	0	2
	*0	0	1	Writtle	↑	*23	0	4
	*0	0	0	Silwood Park (nr Ascot)		*0	0	1
	*0	0	0	Wye	↑	*2	0	1
↑	*8	0	2	Starcross (nr Exeter)	↑	*8	1	2

Further information

Please send information on crop aphids to: mark-s.taylor@rothamsted.ac.uk

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