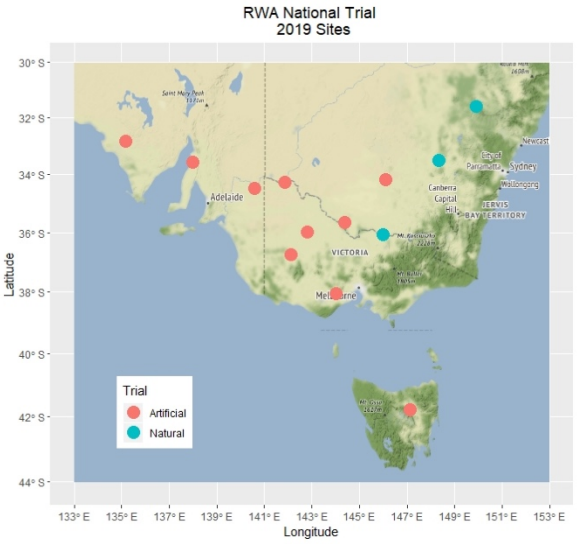
Russian wheat aphid 2019 national trial site summary #5

A GRDC investment, '*Russian wheat aphid risk assessment and regional thresholds*' is investigating regional risk and management tactics for Russian wheat aphid (RWA). The project is being led by the South Australian Research & Development Institute (SARDI).

These fortnightly summaries display RWA numbers per trial site, as well as observations of symptoms caused by RWA feeding. Results from these trials will be used to develop regional economic thresholds for management of RWA.

More information about these trial sites can be viewed on the online RWA portal: cesaraustralia.com/rwa-portal



Trial site structure

Natural infestation: At each trial site (13 in total) 16 plots of wheat and barley have been grown with and without imidacloprid seed treatment. No other insecticides will be applied to these plots. RWA will be allowed to develop until harvest and any impact on quality and yield will be assessed. This will support determination of the regional risk of RWA infestation.

Artificial inoculation: At 10 trial sites (refer to map) 36 plots of wheat, durum wheat and barley have been inoculated with aphids. These plots are located in an area where RWA has been established since at least 2017. One third of these plots were seed treated with imidacloprid, one third are untreated and one third will be treated with Chlorpyrifos at GS35-40. Impact on quality and yield will be assessed. This will support determination of threshold levels for yield loss.

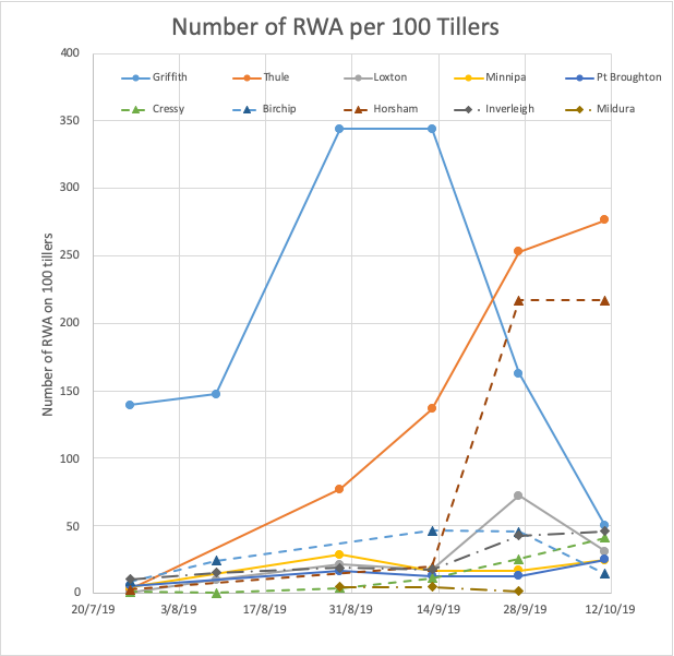
Further information on trial site design can be found in this FAQ sheet.

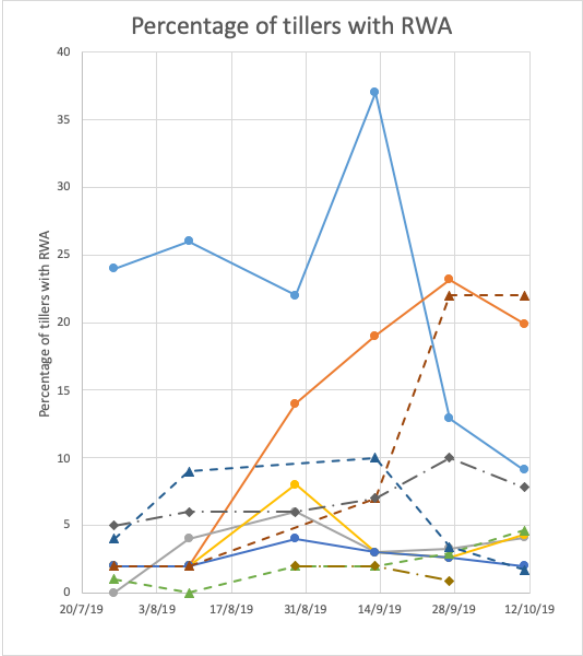
Natural infestation

				Non Winged RWA		Winged RWA				
Site	State	Last Observation Date	Growth Stage	Present?	# per symptomatic tiller	Present?	# per symptomatic tiller	Percentage Symptomatic Tillers	RWA/100 Tillers	% tillers with RWA
Bundella	NSW	6/8/19	30	No	0.00	No	0.00	0	0	0
Eugowra	NSW	2/8/19	17	No	0.00	No	0.00	0	0	0
Griffith	NSW	9/10/19	90	No	0.00	No	0.00	0	0	0
Thule	NSW	24/9/19	28	No	0.00	No	0.00	0	0	0
Loxton	SA	1/10/19	88	Yes	8.13	Yes	0.63	2	17.5	1.25
Minnipa	SA	10/10/19	92	No	0.00	No	0.00	0	0	0
Pt Broughton	SA	18/9/19	83	No	0.00	No	0.00	0	0	0
Cressy	TAS	7/10/19	39	Yes	10.00	No	0.00	0.5	5	0.5
Birchip	VIC	3/10/19	75	Yes	3.50	No	0.00	0.33	1.17	0.33
Horsham	VIC	25/9/19	43	Yes	3.00	No	0.00	1	3	1.75
Inverleigh	VIC	7/10/19	65	No	0.00	No	0.00	0	0	0
Mildura *	VIC	2/9/19	22	Yes	0.00	Yes	0.00	0	1.23	1
Yarrawonga	VIC	23/9/19	71	No	0.0	No	0.00	0	0	0

Artificial inoculation

				Non Winged RWA		Winged RWA				
Site	State	Last Observation Date	Growth Stage	Present?	# per symptomatic tiller	Present?	# per symptomatic tiller	Percentage Symptomatic Tillers	RWA/100 Tillers	% tillers with RWA
Griffith	NSW	9/10/19	90	Yes	1.78	Yes	0.1	27	50.11	9.1
Thule	NSW	24/9/19	28	Yes	9.08	Yes	0.04	30	286.00	19.9
Loxton	SA	1/10/19	85	Yes	3.87	Yes	0.07	8	31.11	4.1
Minnipa	SA	10/10/19	92	Yes	NA	Yes	NA	NA	24.56	4.3
Pt Broughton	SA	18/9/19	83	Yes	7.1	Yes	0.16	3	25.00	2
Cressy	TAS	7/10/19	39	Yes	6.47	Yes	0.02	6	41.11	4.6
Birchip	VIC	3/10/19	75	Yes	1.8	Yes	0.03	8	14.22	1.7
Horsham	VIC	25/9/19	43	Yes	8.18	Yes	0.30	26	216.89	22
Inverleigh	VIC	7/10/19	65	Yes	1.04	No	0.00	51	45.89	7.8
Mildura *	VIC	2/9/19	24	Yes	4.00	No	0.00	0	1.33	0.9





Graphs: Number of Russian wheat aphid found per 100 tillers in artificial inoculation plots per trial site (left) and proportion of tillers with Russian wheat aphid in artificial inoculation plots per trial site (right).

Take home points

This season there have been no RWA observed in the trials at Bundella, Eugowra and Yarrawonga.

The graphs above display distinct differences between trial sites with Thule having the highest population of RWA currently. Horsham has also had an increase in RWA numbers, while the other trial sites have continued to show relatively low numbers of the aphid. These graphs also show the collapse of the RWA population at the Griffith trial site. This was expected due to haying off in Griffith.

Thule and Horsham populations are expected to decline in the next fortnight. Higher rainfall crops (Inverleigh and Cressy) are expected to experience an increase in RWA numbers as the season warms.

At later stages of growth, when migration is expected, cereal crops are unlikely to attract migratory aphids. In the unlikely event that infestation does occur at a mature growth stage (>GS 40) impact on yield is highly unlikely. Most sites are still below the American threshold of 10% of tillers with RWA in the inoculated trials.

If you see RWA symptoms and aphids please make a report. Send a photo with a date, place (GPS location) and host plant (if known) to the contacts below. These observations will be added to the distribution map on the RWA portal.

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This research initiative is a GRDC investment that seeks to deliver information on Russian Wheat Aphid management for grain growers. This project is being undertaken by the South Australian Research & Development Institute (SARDI) and **cesar.**