

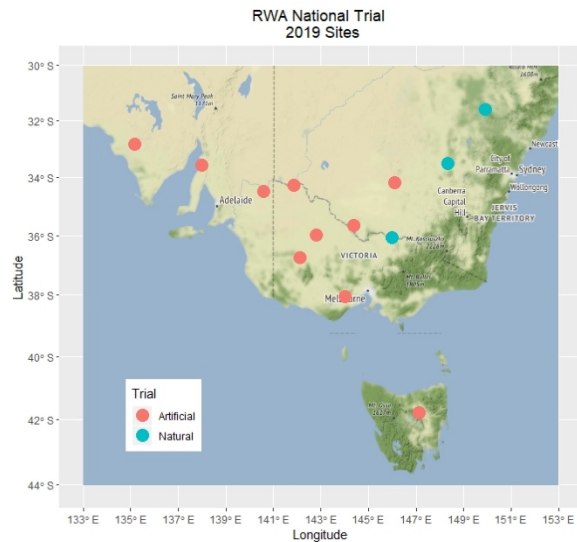
Russian wheat aphid 2019 national trial site summary #3

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.

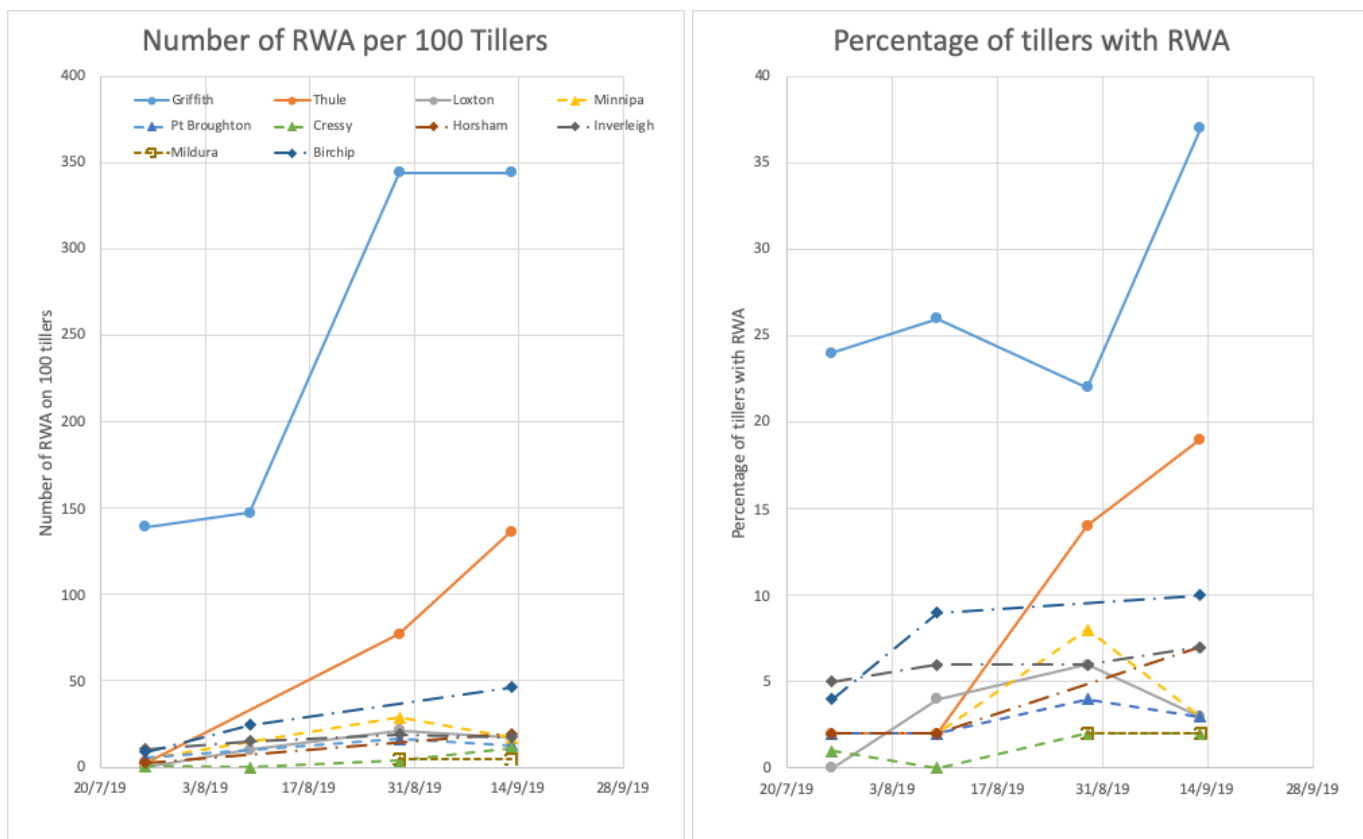
Further information on trial site design can be found in this [FAQ sheet](#).

Natural infestation

Site	State	Last Observation Date	Growth Stage	Non Winged RWA		Winged RWA		Percentage Symptomatic Tillers	RWA/100 Tillers	% tillers with RWA
				Present?	# per symptomatic tiller	Present?	# per symptomatic tiller			
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	27/8/19	48	No	0.00	Yes	1.00	0.25	0.25	0.25
Thule	NSW	27/8/19	28	No	0.00	No	0.00	0	0	0
Loxton	SA	3/9/19	61	Yes	6.75	Yes	0.25	1	7	0.5
Minnipa	SA	11/9/19	60	No	0.00	No	0.00	0	0	0
Pt Broughton	SA	22/8/19	55	No	0.00	No	0.00	0	0	0
Cressy	TAS	9/9/19	32	No	0.00	No	0.00	0	0	0
Horsham	VIC	3/9/19	41	No	0.00	No	0.00	0.75	0	0
Birchip	VIC	23/8/19	24	No	0.00	No	0.00	0	0	0
Inverleigh	VIC	2/9/19	40	No	0.00	No	0.00	0	0	0
Mildura	VIC	16/8/19	22	Yes	3.00	No	0.00	0	0.75	0.75
Yarrawonga	VIC	3/9/19	43	No	0.0	No	0.00	0	0	0

Artificial inoculation

Site	State	Last Observation Date	Growth Stage	Non Winged RWA		Winged RWA		Percentage Symptomatic Tillers	RWA/100 Tillers	% tillers with RWA
				Present?	# per symptomatic tiller	Present?	# per symptomatic tiller			
Griffith	NSW	27/8/19	48	Yes	5.19	Yes	0.55	60	344.11	37
Thule	NSW	27/8/19	28	Yes	6.15	Yes	0.10	22	136.33	19
Loxton	SA	3/9/19	61	Yes	3.06	No	0.00	6	17.11	3
Minnipa	SA	11/9/19	60	Yes	1.92	Yes	0.42	7	16.89	3
Pt Broughton	SA	22/8/19	55	Yes	1.21	No	0.00	10	12.56	3
Cressy	TAS	9/9/19	32	Yes	3.61	No	0.00	3	11.22	2
Birchip	VIC	3/9/19	41	Yes	2.42	No	0.00	19	46.44	10
Horsham	VIC	23/8/19	24	Yes	0.97	No	0.00	20	19.44	7
Inverleigh	VIC	2/9/19	40	Yes	0.5	Yes	0.05	32	17.44	7
Mildura	VIC	16/8/19	24	Yes	2.33	No	0.00	2	4.66	2



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

There remains a very low level of RWA in the natural infestation plots. This is probably due to the very dry summer that has reduced the green bridge.

With warmer weather due, there is likely to be a build-up of RWA numbers and migratory activity during spring. 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.

Aphid populations are on the increase in Thule and Griffith with both 'RWA/100 tillers' and 'Percentage of tillers with RWA' on the increase. The population growth in Thule is what we would expect with the warmer days. Most sites are still below the US threshold of 10% of tillers with RWA.

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**.

