THE UNIVERSITY OF SYDNEY
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Cereal Rust Report
Plant Breeding Institute

Cereal rust pathotype status

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To date we have received 76 rust samples, three of wheat leaf rust, two of oat crown rust, a single sample of barley grass stripe rust, and 70 samples of wheat stripe rust all from eastern Australia. As we reported previously, the first detection of stripe rust of wheat in 2023 was received on 7th July (Jindera southern NSW), with subsequent reports from Bethungra NSW (14th July), Tubbul NSW (20 July), Smeaton Victoria (20th July), Naracoorte SA (24th July), and Cressy/Longford Tasmania (26th July). A total of 27 samples of wheat stripe rust have been processed so far, all comprised one or more of the three pathotypes that dominated in eastern Australia in 2022, *viz.* 198 E16 A+ J+ T+ 17+ (7 isolates), 238 E191 A+ 17+ 33+ (10 isolates), or 239 E237 A- 17+ 33+ (10 isolates). Please send freshly collected cereal rust samples in paper only to the Australian Cereal Rust Survey, at University of Sydney, Australian Rust Survey, Reply Paid 88076, Narellan NSW 2567.

To date we have received a total of 76 rust samples: three of wheat leaf rust; two of oat crown rust; a single sample of barley grass stripe rust; 70 samples of wheat stripe rust. All wheat stripe rust samples have come from eastern Australia, where stripe rust is now widespread (**Figure 1**). Twenty seven of the 70 samples of stripe rust have been processed so far, and collaborators who forwarded these samples have been notified of the results.

Wheat stripe rust

As reported in our last Cereal Rust Report, the first report of stripe rust of wheat this year was received on 7th July (Jindera southern NSW), with subsequent reports from Bethungra NSW (14/07), Tubbul NSW (20/07), Smeaton Victoria (20/07), Naracoorte SA (24/07), and Cressy/Longford Tasmania (26/07).

The 27 samples processed so far comprised one or more of the three stripe rust pathotypes that dominated in eastern Australia in 2022, *viz.* 198 E16 A+ J+ T+ 17+ (7 isolates), 238 E191 A+ 17+ 33+ (10 isolates), or 239 E237 A- 17+ 33+ (10 isolates).

As pointed out on our last Cereal Rust Report, the broad geographic spread of these locations strongly implicated independent over-seasoning. The distribution and frequency of the pathotypes identified so far is shown in **Figure 1**. The dominance of the 239 pathotype in southern regions (Victoria, South Australia and Tasmania) and of the 198 and 238 pathotypes in

NSW is consistent with local over-seasoning of 239 in southern regions and of 198 and 238 in NSW.

We continue to process rust samples received and will send results to collaborators who forward samples and update the rust map weekly, which can be accessed via our website:

https://www.sydney.edu.au/science/our-research/research-areas/life-and-environmental-sciences/cereal-rust-research.html)

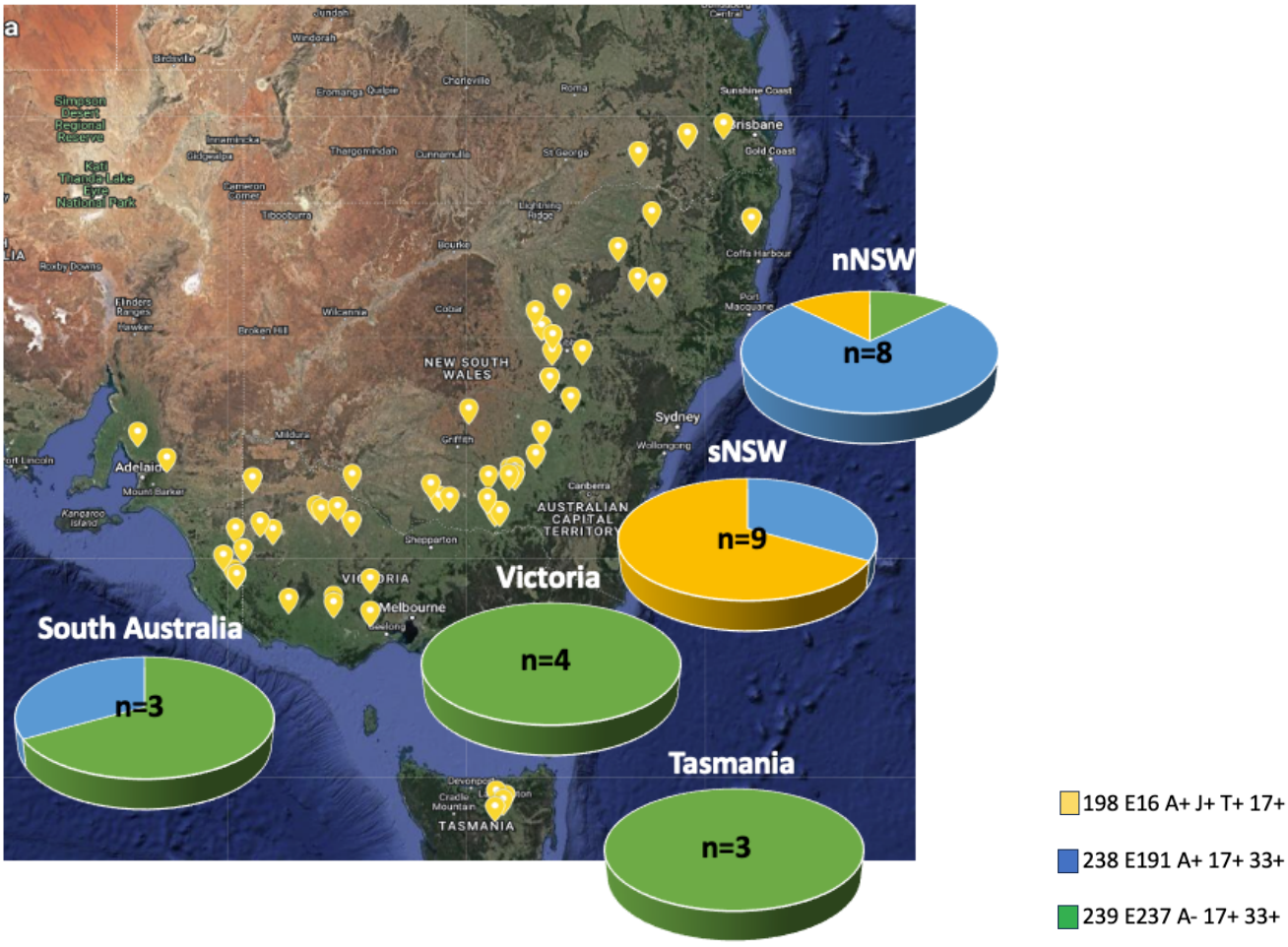

Figure 1: Locations from which stripe rust of wheat has been reported, as at 8th September 2023, along with pathotype identifications on samples processed to date.

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The success of our rust surveys depends entirely on the samples received for analysis- hence as always, growers and other stakeholders are encouraged to monitor crops closely for rust in the coming season, and to forward freshly collected samples in paper only to the Australian Cereal Rust Survey, at University of Sydney, Australian Rust Survey, Reply Paid 88076, Narellan NSW 2567.

We cannot stress enough how important it is not to post samples in plastic of any kind – rust fungi do not like this!

Acknowledgements: The national cereal rust surveillance program at the University of Sydney's Plant Breeding Institute acknowledges all cooperators who forward wheat, barley, oat, triticale and cereal rye rust samples. We especially acknowledge Drs Lisle Snyman, Andrew Milgate, Brad Baxter, Steven Simpfendorfer, Grant Hollaway, Hari Dadu, Tara Garrard, Manisha Shankar and Geoff Thomas.

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Rusted Plant Samples

Can be mailed in paper envelopes. **Do not use plastic wrapping or plastic lined packages**. If possible, include the latitude and longitude of the sample location, date of collection, cultivar, and your full contact details.

Direct rust samples to:

University of Sydney
Australian Rust Survey
Reply Paid 88076
Narellan NSW 2567

The Australian Cereal Rust Control Program is supported by growers through the Grains Research & Development Corporation.