



Cereal Rust Report

Season 2011

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Cereal Rust Situation at Late Winter 2011

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Reports of all three wheat rust pathogens continue to emerge from eastern Australia, emphasising the need for awareness and monitoring of rust development in vulnerable cultivars moving into spring. All co operators who forward samples of rusted cereals to us for pathotype analysis, and who can be contacted by email, will now receive notification upon receipt of the sample and of the test results once they come to hand. We will continue to publish annual reports summarising results from pathogenicity surveys, which are available for download from the PBI website (http://sydney.edu.au/agriculture/plant_breeding_institute/cereal_rust/reports_forms.shtml).

Wheat Stripe Rust

Samples from commercial crops were received initially in early July from the southern border region of NSW. By mid July, samples were received from a wider area encompassing northern, central west and southern NSW. In the same period, reports of heavy stripe rust infection on Baxter were received from Central Queensland. During August, samples were received from a wide area ranging across the majority of wheat growing districts in eastern Australia. At the time of writing, the first sighting of stripe rust in WA has been reported although no sample has been received to verify the identification.

Pathotype determinations have once again confirmed the independent nature of stripe rust survival over widely dispersed locations in the 2010-11 summer period. To date, the "WA" pathotype was recovered from Central Queensland; the "WA Yr17" pathotype

was detected in two samples from northern NSW; the "Jackie" pathotype was detected in two samples from southern NSW.

The current situation in comparison to previous seasons can be gauged to a limited extent from sample numbers processed at the Cereal Rust Laboratory (Table 1). The data suggests that stripe rust is developing more slowly in comparison to recent seasons, and this may reflect a greater uptake of pre-sowing fungicide protection strategies. However, it can be anticipated that seed dressing protection in eastern Australia will decline from now, while fungicide amended fertiliser and in-furrow treatments that give longer protection will decline from late August.

Table 1

Season	May	June	July	August (@ 19 August)	Aggregate (@ 19 August)	Season Total
2008	3	14	62	148	227	837
2009		7	66	93	166	546
2010		10	35	41	86	649
2011			15	56	71	??

Wheat stem rust

Following significant survival during the 2010-11 summer, stem rust continues to be found in many parts of south eastern Australia. While many of the samples received to date have come from stubble regrowth, several recent samples have been received from what are believed to be current season crops. The presence of stem rust in wheat crops at this early stage has not been recorded since the early 1970s and is cause for concern. Eleven samples received since the beginning of April, from various locations in Victoria and South Australia, have all been identified as pathotype 34-1,2,7 +Sr38, which was the most commonly isolated pathotype from this region during the 2010 season.

Wheat leaf rust

Reports of leaf rust in current season crops have been received from widely separated locations in Victoria and South Australia. Only four samples have been processed to date: two were from Queensland, collected from experimental plots in early April and both yielded pathotype 104-1,2,3,(6),(7),11 +Lr37; two were forwarded from South Australia, and were found to comprise pathotypes 104-1,2,3,(6),(7),11 +Lr37 and 76-3,5,9,10,12 +Lr37.

Wheat cultivar rust responses

Current information on genes for resistance to stem rust, leaf rust and stripe rust in Australian commercial wheat and triticale cultivars, along with their rust responses, are detailed in Cereal Rust Report Volume 9, Number 1 (April 2011). This report, along with all other Cereal Rust Reports, can be accessed from the PBI website at the address given above.

Barley and oat rusts

Leaf rust of barley has been reported from several sites in eastern and Western Australia. Samples received from Queensland and Victoria in early April were identified as the *Rph3* virulent pathotype 5457P+, and pathotypes 5453P+ and 220P+, respectively. A single sample forwarded from South Sterling in WA was identified as pathotype 5453P-. Oat crown rust and oat stem rust have been frequently observed since April in crop regrowth and from wild oat populations. Few samples of these diseases have been received to date, and no results on pathotype analysis have yet been obtained.

Rust sample collection

The current importance of rusts in cereal crops will mean that sample collection and pathotype analysis will continue to be an important means of keeping the wider industry abreast of pathogen dynamics. Collection details are presented below.

GENERAL ENQUIRIES

Plant Breeding Institute
Private Bag 4011,
Narellan NSW 2567

107 Cobbitty Road
Cobbitty NSW 2570
T 02-9351 8800 (Reception)
F 02-9351 8875

RUSTED PLANT SAMPLES

can be mailed in paper envelopes;
do not use plastic wrapping or plastic
lined packages.

Direct samples to:

Australian Cereal Rust Survey
Plant Breeding Institute
Private Bag 4011, Narellan NSW 2567

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



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