

Cereal Rust Report

Season 2011

VOLUME 9 ISSUE 2
4 July 2011



THE UNIVERSITY OF
SYDNEY

Cereal Rust Situation at Early Winter 2011

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The cereal rust pathogens were favoured by the wet summer season in 2010-11, with significant inoculum loads surviving through the green bridge period between crops. Stem rust has been observed in stubble regrowth situations in the southern regions of eastern Australia since January. Wheat leaf rust and barley leaf rust have been recorded in eastern Australia at low levels since April. The first report of wheat stripe rust was made in early July 2011 from southern NSW. Oat crown rust and oat stem rust have been frequently observed since April in crop regrowth and from weedy oat populations.

Wheat Stem Rust

Stem rust samples were recovered from late maturing varieties, including Beaufort, Freelon and Marombi, from southern NSW and Victoria in December 2010. The pathogen clearly survived late into the season and was then able to capitalise on the significant areas sown to stem rust vulnerable varieties, and in particular Yitpi in the Mallee regions of Victoria and South Australia, where regrowth from stubble fields over summer provided large scale green bridge carry over opportunities. The threat from the summer carryover of inoculum was reminiscent of the situation that prevailed in the same time period that ultimately led to the most severe stem rust epidemic in living memory in 1973.

Stem rust samples were recovered from stubble regrowth in the Mallee regions in April and May 2011. To date there have been no reports of wheat stem rust from current season crops.

Wheat Leaf Rust

Samples of wheat leaf rust were infrequent at the end of the season in 2010 and over the following summer period. However a well infected sample bearing leaf rust was recovered from an early sown crop of Mackellar at Nathalia (NE Victoria) in early May.

Stripe Rust

Despite heavy inoculum pressure in eastern Australian crops in 2010 and the stubble opportunities for pathogen survival over the summer period, stripe rust has not been recovered since late November. The first confirmed stripe rust sample was received on 1st July from a field of Kosciusko triticale growing at Baroogs (southern NSW).

Pathotype Results

To date there are no results from the samples received since April-May 2011. The samples accessioned in the summer and early cropping season are typically small and scattered, and it can take several weeks to increase spore inoculum before pathotype analysis can be undertaken. Figure 1 illustrates, in the case of stem rust, the amount of rust we would like to receive. In situations where infection is low, we encourage collaborators to collect as much rust as is possible to expedite the process of pathotype analysis. Results for samples already received will be reported as soon as they come to hand.

Comments

Leaf rust and stripe rust have now been confirmed from current season crops in the southern region of eastern Australia. Although these sightings are relatively early, there is no indication at present that would raise undue concern for epidemic development in spring. However these reports should serve to remind growers and advisors to monitor crops for disease, and in particular those varieties known to be vulnerable to the rusts. Early detection gives greater opportunities for timely intervention.



Figure 1.

Stem rust on wheat stems. The amount of rust present on this sample means that it could be used to infect a differential set directly, reducing the time for pathotype determinations from 6 weeks to 3 weeks. Samples with lower amounts of rust need to be increased on a susceptible host before being used to infect a differential set.

GENERAL ENQUIRIES

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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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