

# Cereal Rust Report

Season 2012

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## Cereal Rust Situation at Early Winter 2012

**ROBERT PARK AND COLIN WELLINGS**

The University of Sydney, Plant Breeding Institute, Cobbitty

Email: [colin.wellings@sydney.edu.au](mailto:colin.wellings@sydney.edu.au), Phone: 02-9351 8826 (on secondment from NSW Department Primary Industries)  
[robert.park@sydney.edu.au](mailto:robert.park@sydney.edu.au), Phone: 02-9351 8806

Mild and moist summer conditions in certain regions in 2011-12 encouraged opportunities for green bridge development and potential for cereal rust survival. Good subsoil moisture and opening rains also provided the 2012 cropping season with an ideal establishment period in many regions. With these conditions in view, it is not surprising that stem rust has been observed in stubble regrowth situations and crops in WA over recent months, with three unconfirmed sightings in June in the Esperance-Scaddon area. Wheat leaf rust was recorded in southern NSW in mid May. The first report of wheat stripe rust was made in early June 2011 from Lake Cargelligo (southern NSW), with two subsequent detections from Nyngan in northern NSW and Grenfell in central NSW. In all cases it has been early sown varieties that have recorded the first stripe rust infections for the season.

### Stem Rust on Barley

To date there are no results from analyses from two stem rust samples that have been forwarded from the Esperance-Scaddon region of WA. The presence of stem rust in cereal crops so early in the season is unusual and cause for vigilance. It should be noted that barley is infected with 3 different forms of the stem rust pathogen – the form that attacks wheat (*Puccinia graminis* f. sp. *tritici*), the form that attacks cereal rye (*P. graminis* f. sp. *secalis*) and a hybrid form (“scabrum” rust) derived from the wheat and rye attacking forms. Because the latter two do not infect wheat, determining which form(s) are present on barley is important in assessing the potential threat of stem rusted barley crops to wheat crops.

### Wheat Leaf Rust

A sample of wheat leaf rust was collected from a crop of Whistler wheat in central NSW (Lake Cargelligo) in mid May. The disease was severe and the crop sprayed. Two pathotypes were present in the sample, both virulent for the VPM resistance gene Lr37 (viz. 104-1,2,3,(6),(7),11 +Lr37 and 76-3,5,7,9,10,12 +Lr37). These were the two pathotypes most commonly isolated from eastern Australia in the 2011-

12 survey period. The presence of such heavy infection early in the season is unusual and again stresses the need for vigilance in monitoring crops for rust diseases as spring approaches.

### Stripe Rust

The first confirmed stripe rust sample for 2012 was received on 19<sup>th</sup> June from early sown Whistler at Lake Cargelligo (southern NSW). Within the following week, two further samples were received from widely separated locations in NSW: Sunbrook wheat at Nyngan in northern NSW and af Wedgetail at Grenfell in southern NSW. It is still too early to determine the pathotype status of these collections, although the widely separated locations indicate independent survival over the summer period. .

### Comments

Leaf rust and stripe rust have now been confirmed from current season crops in the southern region of eastern Australia, and stem rust from crops of barley in WA. 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 the rusts, and in particular those varieties known to be vulnerable.. Early detection gives greater opportunities for timely intervention.

Where susceptible varieties are of concern, options to consider will include grazing (specifically the long season wheats) and fungicide application. Main season varieties known to be susceptible should be carefully monitored, and especially if there has been no chemical protection applied at seeding. In the latter

case, tank mixing fungicide with broad leaf chemical sprays can assist in reducing application costs. In all situations, seek local advice from pathologists and technical specialists.

It will be important to monitor rust pathotype variability. Readers are encouraged to submit samples for confirmation of rust identity and subsequent pathotype analysis. See instructions below.



Stripe rust (above left) and leaf rust (right) are the first wheat rusts expected to be observed in commercial crops. Stem rust, which requires warmer temperatures, may be expected to appear from mid spring.

### 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

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