



Cereal Rust Report

Season 2010

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Early Pathotype Identifications Confirm Independent Survival of Rusts in 2009-10

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Recent pathotype identifications for stripe rust and leaf rust of wheat collected in early winter from farmers fields provides strong support for the long held belief that cereal rust diseases often survive the non-cropping summer months at independent locations in cereal producing regions in Australia. As above average conditions for crop establishment in mid winter give hope for the coming spring, decisions to prepare for possible fungicide support in varieties known to be vulnerable to the rust diseases would appear timely at this juncture.

Wheat Stripe Rust

Two pathotypes have been identified:

'Jackie' pathotype (134 E16 A+ J+) was recovered from a crop of Endeavour triticale at Laggan (near Crookwell, southern NSW). The sample was received on 10th June, and the grower reports evidence of stripe rust in several triticale varieties.

'WA Yr17' pathotype (134 E16 A+Yr17+) was identified from two samples. The first was received from an early sown field of Marombi wheat at Cargo (Central West NSW). This sample was over 100Km from the triticale sample noted above. The contrast in pathotype and the distance between these locations confirms that stripe rust survived independently at these locations. The second sample comprising the 'WA Yr17' pathotype was received on 29th June from a Whistler crop growing near Jerilderie (southern NSW). This second detection indicates that the 'WA Yr17' pathotype is present early in the season, in contrast to previous seasons, and from widely distant locations. These results should be considered an early warning for Yr17 varieties known to be

vulnerable to this pathotype, and will serve to remind growers and advisors to carefully monitor crops.

Other stripe rust samples received, in early July, were from:

- Ellison wheat, Eugowra (Central West NSW)
- Marombi wheat, Cowra (Central West NSW)
- Diamondbird wheat, Nagambie (Central Victoria)
- un-named wheat, Benalla (Central Victoria)

The wide separation of these samples and the likelihood that the 'WA Yr17' pathotype will be recovered from Ellison and Marombi strengthens the appeal for careful monitoring of crops across the southern regions of eastern Australia.

Wheat Stem Rust

To date, two pathotypes have been identified from samples of stem rusted triticale (34-2,12,13) or wheat (34-1,2,7 +Sr38). The latter was identified in three samples, collected from South Australia (Jabuk in mid May) and Victoria (Wonwondah in late May and Longerenong early June). Derived from pathotype 34-1,2,7 via acquisition of virulence for Sr38, this

pathotype was first detected in WA in 2001, and presumably spread to eastern Australia, where it was first detected at Arno Bay (SA) in November 2003. It has now been detected in all Australian states. A third sample of stem rust from Victoria collected in early June from a crop of Yitpi at Boort is yet to be processed.

Wheat Leaf Rust

Ten samples of wheat leaf rust have been received to date, from locations throughout eastern Australia including Queensland (e.g. Warwick), NSW (e.g. Dunedoo, Jerilderie, Delegate), and Victoria (e.g. Donald, Lake Bolac). Four of the samples were from crops of Marombi, and the pathotypes identified were either 104-1,2,3,(6),(7),11 +Lr37 or (less frequently) 104-1,2,3,(6),(7),11. Two samples came from crops of Mackellar wheat, one from Delegate being found to comprise pathotypes 10-1,3,9,10,11 and 76-3,5,9,10 +Lr37. Both pathotypes are believed to be exotic incursions into Australia, being first isolated from Victoria at Bairnsdale in October 2004 (10-1,3,9,10,11) and Inverleigh in late July 2006 (76-3,5,9,10 +Lr37). They are now present throughout Victoria, southern and northern NSW, South Australia and Tasmania.

Oat Crown Rust

As indicated in our last report, crown rust of oats is widespread in eastern Australia following several years of very low occurrence. Some 30 samples have been received since the beginning of April, from oat crops in Victoria, southern and northern NSW and Qld. Pathotypes identified to date include 0001-0 (common and widespread in southern NSW, and also present in northern NSW); 0007-4,6,8,10 (from Cowra); 0007-4,6,8,10 (Henty); 0000-2 (Katamatite Vic); and 0307-1,4,5,6,10,12 +Gwydir+Nugene+Genie. The latter is the first oat crown rust pathotype capable of attacking cv Genie, and has been isolated from Toowoomba, Gatton, Texas, Dorrigo and Tenterfield.

Fungicides

It will be important for advisors and growers to carefully weigh up fungicide options for 2010 in light of these early reports and results from the cereal rust pathogen survey. With increasing concerns for anticipated plague locust control measures in late winter and spring and the potential for cereal rusts to quickly reach damaging levels, there may well be situations arise where competition for resources such as aircraft will demand careful considerations of priorities. Issues to be considered will include:

- timely application of fungicide. It will be important to get the first spray out in a timely manner. This may require a consideration for tank mixing fungicide and insecticide in some situations. Advice on chemical compatibility will need to be sought.
- product choice. Fungicides vary in curative and protectant characteristics, and these are broadly appreciated even if not carefully defined.
- setting crop protection priorities. In situations where resources are limited (product or contractor shortages), consideration will need to be given to applying fungicide to varieties or even areas within a crop that would be expected to have the highest potential returns. Any relaxation in resources will allow second priority varieties and/or cropping areas to be addressed.

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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