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## MEDIA RELEASE

### Variety selection first front in rust management

Western Australian grain growers are being warned to make careful variety selections for 2014 following the identification of new wheat and barley leaf rust pathotypes.

The pathotypes will cause current leaf rust resistance ratings of several wheat and barley varieties to change, becoming more susceptible to leaf rust.

#### **Wheat**

University of Sydney Professor Robert Park, from the Australian Cereal Rust Control Program (ACRCP), recently identified a new wheat leaf rust pathotype (76- 1,3,5,7,9,10,12 +Lr37) in WA's grainbelt.

"This pathotype moved to WA from eastern Australia, most probably last year in wet spring conditions favourable to rust spore dispersal and development," he said. "This discovery is only the second documented east to west movement of a cereal rust pathogen since 1990."

The ACRCP, supported by the Grains Research and Development Corporation (GRDC), in conjunction with the Department of Agriculture and Food WA, is advising growers on possible varietal resistance rating changes that may affect them in 2014. Based on agreed leaf rust ratings from eastern Australia in recent years, these include possible changes in:

- Corack<sup>Φ<sub>PBR</sub></sup> and Wyalkatchem<sup>Φ<sub>PBR</sub></sup> to Moderately Susceptible (MS)
- Emu Rock<sup>Φ<sub>PBR</sub></sup> to Moderately Susceptible to Susceptible (MS-S)
- Fortune<sup>Φ<sub>PBR</sub></sup>, King Rock<sup>Φ<sub>PBR</sub></sup> and Zippy<sup>Φ<sub>PBR</sub></sup> to Moderately Resistant to Moderately Susceptible (MR-MS)

The leaf rust responses of Cobra<sup>Φ<sub>PBR</sub></sup> (MR), Carnamah<sup>Φ<sub>PBR</sub></sup> (MS-S), Calingiri<sup>Φ<sub>PBR</sub></sup> (MS), Magenta<sup>Φ<sub>PBR</sub></sup> (R), GBA Sapphire<sup>Φ<sub>PBR</sub></sup> (R), and Bullaring<sup>Φ<sub>PBR</sub></sup> (R) are not expected to change significantly.

Further tests are being conducted to establish the actual response of Mace<sup>Φ<sub>PBR</sub></sup>, which is expected to be more susceptible to the new pathotype.

#### **Barley**

The new barley leaf rust pathotype (5457 P-) is believed to have originated locally in WA through mutation. It was identified from samples collected by DAFWA in the state's southern cropping regions and is expected to reduce resistance to leaf rust in several varieties known to carry the Rph3 resistance gene in WA.



Test are underway to assess its impact on the varieties Bass<sup>(D<sub>PBR</sub>)</sup>, Fairview<sup>(D<sub>PBR</sub>)</sup>, Finniss<sup>(D<sub>PBR</sub>)</sup>, Fitzroy<sup>(D<sub>PBR</sub>)</sup>, Grange<sup>(D<sub>PBR</sub>)</sup>, Henley<sup>(D<sub>PBR</sub>)</sup>, Oxford<sup>(D<sub>PBR</sub>)</sup>, Wimmera<sup>(D<sub>PBR</sub>)</sup> and Yarra<sup>(D<sub>PBR</sub>)</sup>. However, the leaf rust susceptibility of three of these varieties – Grange<sup>(D<sub>PBR</sub>)</sup>, Henley<sup>(D<sub>PBR</sub>)</sup> and Oxford<sup>(D<sub>PBR</sub>)</sup> – is not expected to change markedly due to the presence of the adult plant resistance gene *Rph20*.

In barley leaf rust-prone areas, such as the South Coast, Bass<sup>(D<sub>PBR</sub>)</sup> is likely to require similar management to existing susceptible varieties.

### **Management**

“Given the recent changes in wheat and barley leaf rust pathogens, we are recommending that all growers develop a sound rust management strategy for 2014,” Prof Park said.

“Each strategy should include a plan to consider variety selection (at a minimum avoiding S and VS varieties), managing the green bridge (volunteer plants) that can serve as a sanctuary for rust development, a fungicide control plan, crop monitoring and community communication to ensure early identification should rust be found.”

Growers are also encouraged to send samples of leaf rust to the University of Sydney Plant Breeding Institute for pathotype analysis.

Rust plant samples can be mailed in paper envelopes, not plastic wrapping or plastic-lined packages, to Australia Cereal Rust Survey, Plant Breeding Institute, Private Bag 4011, Narellan, NSW, 2567. All samples received will be acknowledged, and the sender notified of results as soon as they come to hand.

### **More information:**

- Information on developing a strategy can be found on the Rust Bust website [www.rustbust.com.au](http://www.rustbust.com.au) or in the GRDC *Cereal Fungicides* Fact Sheet at [www.grdc.com.au/GRDC-FS-CerealFungicides](http://www.grdc.com.au/GRDC-FS-CerealFungicides).
- Information about other wheat disease resistance ratings is available in the *WA Wheat Variety Guide 2013*, available on the DAFWA website [www.agric.wa.gov.au](http://www.agric.wa.gov.au). However, growers must remember the possible resistance rating changes.
- Disease information is also available on the GRDC-supported National Variety Trials website [www.nvtonline.com.au](http://www.nvtonline.com.au)

### **ENDS**

**For interviews:** contact Professor Robert Park, University of Sydney Plant Breeding Institute, Cobbitty, NSW, 02 9351 8806 or [robert.park@sydney.edu.au](mailto:robert.park@sydney.edu.au)

*The Australian Cereal Rust Control Program (ACRCP, established in 1973) monitors cereal rust pathogens throughout Australia, finds and characterises new sources of rust resistance, and assists Australian cereal breeding groups to incorporate rust resistance in new cultivars. The ACRCP is funded largely by the grains industry, through the [Grains Research & Development Corporation](http://www.grdc.com.au) (GRDC).*