

Wednesday, August 19, 2015

Australia-wide rust reports highlight importance of crop monitoring

All three types of rust – stem rust, stripe rust and leaf rust – have been found in crops of wheat, highlighting the importance of crop monitoring and early management. Leaf rust has also been found in barley crops, and stem rust and crown rust in oat crops.

In South Australia, barley leaf rust has been detected on the Fleurieu Peninsula. Unlike other rusts, barley leaf rust that has survived on stubble can infect an alternate host, the weed *Star of Bethlehem*. It was previously thought this weed occurred only on the Yorke Peninsula.

SARDI pathologist and Australian Cereal Rust Control Program Consultative Committee member Dr Hugh Wallwork said while the transfer of barley leaf rust via the weed was not common, it poses a problem when barley is grown in close rotation in a paddock infested with the weed.

“I have observed a crop of Scope barley with heavy infection of the leaf rust in a paddock with a very thick infestation of the *Star of Bethlehem* weed on the Fleurieu Peninsula,” he said. Unfortunately, the crop of Scope has probably been sending spores downwind for a significant period of time, so we encourage all growers downwind to monitor their barley crops for leaf rust.”

“This crop was sown in barley stubble, which we presume was infected with leaf rust in 2014. Rust spores from infected stubble germinate and can infect *Star of Bethlehem*, on which another type of spore is produced that can infect barley. This process allows the rust to undergo sexual recombination and so each spore produced on the *Star of Bethlehem* is potentially a new pathotype.

Barley leaf rust has also been found in barley crops on the Yorke Peninsula.

Dr Wallwork said he had recently visited a property at Bool Lagoon in the state’s South East that has a wheat leaf rust infection.

“This is the new rust pathotype with increased virulence on varieties such as Mace, Wyalkatchem, Corack, Scout, Wallup and Revenue. We first observed this pathotype last year and it is capable of causing considerable losses this year unless it is kept under good control.”

Leaf rust has also been reported on Grenade CL Plus wheat on the Yorke Peninsula.

The first report of stripe rust in SA comes from a crop of Mace near Port Broughton. Only a single small hotspot was visible in the crop.

In addition to samples sent from SA, the Australian Rust Survey at the Plant Breeding Institute has received samples of wheat leaf rust from all other grain-producing states in Australia. It has also recently received samples of wheat stripe rust from southern Queensland and southern New South Wales.

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Oat stem rust samples have also been received from Queensland and Victoria, while oat crown rust samples have been received from Queensland.

Reports of rust have been received as early as the beginning of July, when Western Australian agronomists reported finding barley leaf rust in southern zones and rust on regrowth of wheat, barley and oats.

Director of the Australian Cereal Rust Control Program (ACRCP), Professor Robert Park, said the discovery of rust provided a reminder to growers to ensure they are monitoring crops regularly and sending samples for pathotype testing.

“We know that many wheat varieties this year were given higher susceptibility ratings based on their responses to leaf rust pathotypes found last year, and we need further data before we can confirm those ratings, so receiving samples is critical to this research,” he said.

“Individual farmers will need to talk with their agronomists to determine their particular management strategy in the short-term, but longer-term, they might need to revise which varieties they are selecting to grow based on the impact of the rust pathotypes.”

Full details of wheat varieties susceptible to current rust pathotypes are available in the Plant Breeding Institute’s Cereal Rust Reports. These, along with other reports of rust, are available on the Rust Bust website at www.rustbust.com.au/news-information/reports, at the University of Sydney website at http://sydney.edu.au/agriculture/plant_breeding_institute/cereal_rust/index.shtml, or via Twitter @the_rustbust. All current Cereal Variety Disease Guides are also available online through the Rust Bust website: <http://rustbust.com.au/tips-for-busting-rust/variety-selection-2/>

Rusted plant samples can be mailed in paper envelopes; do not use plastic wrapping or plastic lined packages. If possible, include GPS recordings of latitude and longitude of the sample location. Direct samples to: University of Sydney Australian Rust Survey Reply Paid 88076 Narellan NSW 2567.

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The Rust Bust campaign is an initiative of The Australian Cereal Rust Control Program (ACRCP) Consultative Committee. The 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 Consultative Committee includes representatives from state pathology and breeding groups and provides a key link between industry and the ACRCP. The ACRCP is funded largely by the grains industry, through the Grains Research & Development Corporation (GRDC).

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