October 2012

Crop Alert

Protecting your crops against disease

Stem rust: There have been reports of stem rust in Mallee and Wimmera Yitpi crops. It is likely that following two recent rain events and warming weather that the severity of stem rust in infected wheat crops will increase, and protection with foliar fungicides may be necessary. Even those crops that were sown with fungicide on fertiliser are starting to show signs of stem rust.

Growers are encouraged to inspect their susceptible wheat crops (especially Yitpi) for the presence of stem rust and determine the level of infection (see below). If a fungicide is to be applied the sooner that it is applied the better control that will be achieved.

If you are unsure of the stem rust rating of you wheat variety refer to a current Victorian Cereal Disease Guide.

It is more likely that the later crops (ie flowering growth stage or younger) will benefit from a fungicide application if stem rust is present. Once a crop is at the mid-dough stage a low infection is less likely to have an impact on grain yield.

The rate of stem rust development will increase as the weather warms to its ideal temperature (i.e. 15-30°C) in the late spring. Its development is also favoured by wet conditions.

What to look for: Stem rust is characterised by reddish-brown, oblong pustules. The pustules have a characteristic torn margin, and can occur on both sides of leaves, as well as on stems and glumes (Figures 1 and 2). When looking for stem rust look along the full length of the stem.

Monitoring: To measure the level of infection within a paddock collect 100 stems at random and count the number showing symptoms of stem rust. Monitoring should occur every 4 to 7 days until a fungicide is applied or the crop reaches the mid-dough stage.

When to spray: The information in Table 1 is a guide for the application of foliar fungicides. Note that this table is not based on Victorian data, but on limited experimental data from Western Australia (Beard *et al* 2004). Fungicides will give better control of stem rust when applied early in the epidemic. A late, low level occurrence of stem rust (ie after mid-dough) will have little impact on yield. Good control of stem rust can be achieved up until the mid dough stage (Table1), but the earlier that a foliar spray is applied the better the control that can be achieved.

Preference should be given to later susceptible higher yield potential crops.

Table 1. A guide for timing fungicide control of stem rust (Beard *et al* 2004).

Crop growth stage	Stems infected[A] %	Resistance rating[B]	
		VS, S, MS-S	MR-MS
Before ear emergence	1-5	Spray	Monitor
	> 5	Spray	Spray
Ear emergence to mid-dough	> 5	Spray	Monitor
	>50	Spray	Spray

[A] Based on 100 stems selected in a W pattern across crop.
[B] R= Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, VS = Very Susceptible

Beard *et al* (2004) Managing Stem Rust of Wheat. Western Australian Department of Agriculture and Food, Farmnote No73/2004 (reviewed 2006) www.agric.wa.gov.au

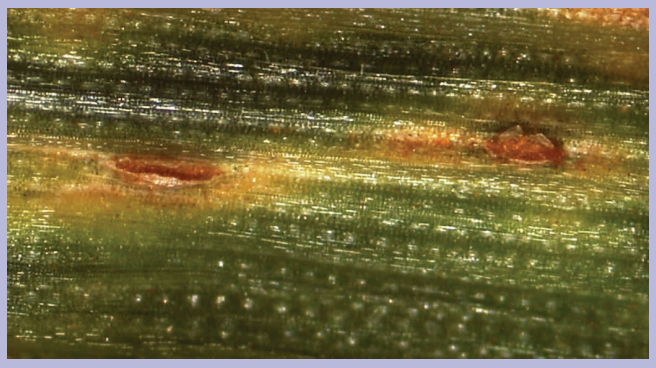

Figure 1. Close up of stem rust pustules

Figure 2. Stem rust pustules on stem

State Government Victoria Department of Primary Industries

GRDC Grains Research & Development Corporation

Fungicide choice: In Victoria, there are a number of active ingredients (available in a range of products) registered for the control of stem rust. Products containing tebuconazole break down relatively slowly in plants, and users must observe the product label restrictions regarding the total amount that can be applied to one crop per season.

Only one application of any product containing 430 g/L tebuconazole at the maximum label rate of 290 mL/ha can be used in a crop. This will ensure harvested crops don't exceed the tebuconazole maximum residue limit (MRL) in cereal grains. See Taking Care with Foliar Fungicides for more information.

Withholding periods: Sprays for stem rust may be applied late in the season, therefore it is extremely important to know the harvest withholding period for the chemicals, which can vary from 4 to 6 weeks.

Contact: Dr Grant Hollaway or Frank Henry, DPI Field Crop Pathology, 110 Natimuk Rd, Horsham 3400. Tel (03) 5362 2111, or the DPI Customer Service Centre 136 186.

Pulse diseases: There have been numerous reports of rust in faba bean crops. Crops should be monitored closely for rust if warm temperatures (20°C) and very high humidity occur. Look for numerous, small, orange-brown pustules, each surrounded by a light yellow halo on the leaves (Figure 3).

Conditions have also been favourable for chocolate spot on beans (Figure 3). Chocolate spot spreads most aggressively in warm and humid conditions. The optimum conditions are temperatures between 15 and 22°C with at least 90 per cent relatively humidity.

Figure 3. Leaf symptoms of rust (left) and chocolate spot (right) on faba beans

Foliar fungicides can be used to control bean rust and chocolate spot. See Pulse Australia - Pulse Seed Treatments and Foliar Fungicides

It is now time to actively monitor lentil and chickpea crops for Ascochyta blight. Susceptible lentil and chickpea pods will require protection from Ascochyta by applying a fungicide before the next wet period.

Further information:

More information can be obtained from the DPI Information Notes: www.dpi.vic.gov.au/graindiseases
Cereal Diseases Guide (AG1160).
Stem rust of wheat (AG1251).
DPI Taking Care with Foliar Fungicides.
Beard *et al* (2004) Managing Stem Rust of Wheat. Western Australian Department of Agriculture and Food, Farmnote No73/2004 (reviewed 2006)
www.agric.wa.gov.au
Pulse Disease Guide 2012 (AG1347)
Rust in faba beans (AG0152)
Chocolate spot of faba bean (AG0153)
Ascochyta blight of chickpea (AG1186)
Pulse Seed Treatments and Foliar Fungicides

Published by the Department of Primary Industries and GRDC, October 2012

Disclaimer: This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.