PestFax
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Wheat disease update
Volunteer wheat still spreading leaf rust

Lake Grace

Chloe McDougall (Landmark) reports finding low levels of leaf rust in tillering Mace wheat in the Lake Grace area lately. The crop is adjacent to a paddock which had volunteer wheat in summer, the Mace crop will be monitored and a fungicide sprayed if required.

Following the identification in 2013 of a new pathotype with increased virulence on varieties such as Mace, Wyalkatchem and Corack, Mace is rated moderately susceptible to this pathotype. Inoculated trials with this pathotype in 2014 indicated that with high disease pressure at early growth stages significant yield losses were possible in Mace. However, with later onset of disease, severity was limited. Susceptible varieties such as Stiletto will continue to exhibit high levels of infection and significant yield losses to this pathotype.

In susceptible varieties, infection at early crop growth stages may require fungicide intervention to stem potential yield losses. It is important to act before leaf rust becomes severe and application of fungicide around stem elongation, if disease is present, can limit the build up of disease.

Leaf rust (Puccinia triticina) is a fungal leaf disease specific to wheat that can pose a significant threat to the yield and quality of Western Australian wheat crops in some seasons. Symptoms of wheat rust and management strategies can be found on the DAFWA MyCrop page Diagnosing leaf rust in wheat and Registered foliar fungicides for cereals in Western Australia. More information on wheat and other cereal rusts can be found in the article Cereal rusts in volunteer regrowth in PestFax issue 10. The University of Sydney has requested rust samples be sent for pathotype analysis. Please contact Keshab Kandel on +61 (0)2 9351 8849 for a reply paid envelope to send samples. Instructions on how to sample are available here.

Wheat powdery mildew

- Binnu
- Dalwallinu
- East Wubin
- Jibberding
- West Buntine
Chris Pinkney (Agrarian Management) reports a tillering Calingiri wheat crop in the Binnu area with a widespread low level infection of powdery mildew. The wheat crop was sown into a paddock of long term sub-tropical perennial grasses. This was the only crop on the property with any sign of disease. Jessica Smith (Landmark) has also found powdery mildew in Calingiri, Mace, Supreme and Zen wheat varieties on several farms in Dalwallinu, East Wubin, Jibberding and west Buntine.

Limited trial data is available from DAFWA with regard to the impact and management of powdery mildew in wheat. The current daily temperatures and lack of rain are conducive to powdery mildew infection because the fungus does not need the presence of water on the leaf surface for infection to occur. However, the relative humidity of the air does need to be high for spore germination. Therefore, the disease is common in crowded plantings where air circulation is poor and in damp, shaded areas. Incidence of infection increases as relative humidity rises to 90%, but it does not occur when leaf surfaces are wet (for example, in a rain shower). Young, succulent growth is usually more susceptible than older plant tissues. More information can be found in the article [Powdery mildew in wheat](#) in PestFax issue 10.

**Septoria nodorum may become an issue**

- Esperance
- Wongan Hills

Alana Hartley (Landmark) has found some wheat crops, particularly noodle wheats in the Wongan Hills area with septoria nodorum. She noted that it has appeared early this year. Luke Marquis (SE Agronomy Services) has also expressed concern that septoria will be an issue this year in the Esperance region where it is quite wet.

*Septoria nodorum* occurs commonly throughout the Western Australian wheatbelt particularly in high rainfall areas and can reduce grain yield and grain quality. It frequently occurs together with *yellow spot* and these are very hard to distinguish with the naked eye due to almost identical symptoms. They have the capacity to reduce yield by up to 30%. Impacts from leaf spot diseases vary greatly from season to season and between locations, dependent on inoculum load and seasonal rainfall. They are particularly a problem in continuous wheat crops in stubble retention farming systems as these diseases are stubble borne.

For wheat after wheat, when there is high disease pressure prior to stem elongation, DAFWA research has shown it may be economic to apply fungicide at, or prior to, early stem elongation (Z31, first node) particularly in medium to high rainfall areas where the crop is struggling with a heavy disease burden. A second spray may be required at or after flag leaf emergence. In rotation crops in medium-high rainfall zones, application of foliar fungicide to affected crops at or after flag leaf emergence has been shown to provide an economic benefit.

For further information on identifying and managing these diseases refer to the [Managing yellow spot and septoria nodorum blotch in wheat](#) page on the DAFWA website.

For more information contact [Geoff Thomas](mailto:geoff.thomas@dafw.wa.gov.au), Plant Pathologist, South Perth on +61 (0)8 9368 3262.

**Barley disease update**

**Barley leaf rust**

- Dandaragan

Susie Mason (Elders) reports a tillering Bass barley crop in Dandaragan with low levels of barley leaf rust. There have been many reports to PestFax of barley leaf rust in southern areas, this is the first report received from further north.

Refer to the articles [Barley leaf rust and net blotch](#) in Pestfax issue 11 and [Barley leaf rust increasing in southern areas](#) in PestFax issue 10 for information on the control and management of this disease. Last week’s webinar on barley leaf rust presented by Kithsiri Jayasena (DAFWA) will also be uploaded to the [Training Growers YouTube channel](mailto:traininggrowers@youtube.com) today.

**Barley powdery mildew**

- Dandaragan
In the Lake Grace area, Chloe McDougall (Landmark) is finding powdery mildew in barley crops, mainly in susceptible varieties such as Gardiner. Chloe also commented that a lot of farmers have already sprayed fungicide on crops that have high levels of powdery mildew. Susie Mason (Elders) reports the tillering Bass barley crop in Dandaragan with barley leaf rust also has early stages of powdery mildew as well.

Kith Jayasena (DAFWA) reported detection of powdery mildew on susceptible trap plants (Baudin) across lower Great Southern. He says powdery mildew can inflict more damage when infection occurs during tillering growth stage. Late infection can cause less yield loss.

Kith says that attention should be given to susceptible barley varieties (see Page 19 and 20 of the 2015 WA barley variety guide for details of seedling and adult disease resistance) in the region where powdery mildew has already been observed and manage with foliar fungicide. He says use of tebuconazole should be avoided due to fungicide resistance in powdery mildew resulting in lack of control from this fungicide. He suggested that fungicides should be rotated and any product should not be use more than twice per season as part of a resistance management strategy.

The article Barley powdery mildew in PestFax issue 11 contains information on diagnosis and management of the disease. For further reading refer to Management of barley powdery mildew in 2015 - fungicide resistance and Registered foliar fungicides for cereals in Western Australia (WA).

For more information contact Kithsiri Jayasena, Plant Pathologist, Albany on +61 (0)8 9892 8477.

Contact details update for powdery mildew samples

If you have had a fungicide fail to control powdery mildew or you suspect an infection has become resistant to fungicide, send samples to Fran Lopez-Ruiz (+61 (0)8 9266 3061) at the Centre for Crop and Disease Management (CCDM), Department of Environment and Agriculture, Curtin University.

Growers can also contact frg@curtin.edu.au if they would like to participate in fungicide resistance research and receive a free sample pack. The Fungicide Resistance Group currently has sampling packs available for powdery mildews across all hosts, botrytis cinerea on grapes, ascochyta blight, canola blackleg, net blotches, yellow/tan spot and septoria nodorum blotch.

Sampling is free and easy for senders as the sample packs contain everything the sender needs such as sampling instructions, any required tools, and prepaid return postage. The packs will differ depending on the pathogen being sent into the centre. Growers should note that this is not a diagnostic service, disease diagnosis is available from AGWEST Plant Laboratories. Participants will have access to an annual report with a summary of findings over regions by signing up to the CCDM newsletter The Spotlight.
Spot type net blotch

- Dandaragan
- Jennacubbine
- Lake Grace

Chloe McDougall (Landmark) reports that spot type net blotch (STNB) can be seen in almost all barley in the Lake Grace area. Chloe also said that most growers in the area that are going over barley for broadleaf are adding a fungicide for STNB. Low levels of STNB were also found by Susie Mason (Elders) when inspecting a tillering Bass barley crop in Dandaragan.

Gavin Sarre (DAFWA) reports 3-5 leaf La Trobe barley in a lime trial in Jennacubbine with high levels of STNB (pictured). The trial had been sown into last year’s barley stubble. Gavin commented that the grower’s Scope barley crop around the trial had much lower levels of disease. The trial has been sprayed with a fungicide. Before spraying infected leaf samples were sent for analysis.

Barley leaves showing the oval dark brown spots with yellow edges characteristic of spot type net blotch symptoms.

As part of a local and national survey of the distribution and virulence of the net blotches plant pathologists Geoff Thomas and Sanjiv Gupta would like to receive samples of leaf material infected by either spot type or net type net blotch. The leaf samples can be simply placed in a paper envelope with variety and location information included and sent through the mail to:

Department of Agriculture and Food, Western Australia
Locked Bag 4
Bentley DC 6983

For more information contact Geoff Thomas, Plant Pathologist, South Perth on +61 (0)8 9368 3262 or Sanjiv Gupta, Plant Pathologist, Murdoch University on +61 (0)8 9368 3622.

White leaf spot is a less common canola disease

- Wongan Hills

Alana Hartley (Landmark) reports seeing several canola crops in the Wongan Hills area with white leaf spot.

White leaf spot is caused by the fungus Mycosphaerella capsellae (also called Pseudocercosporella capsellae). The disease has a worldwide distribution and a wide host range among cruciferous weeds. In Australia, white leaf spot commonly infects canola seedlings and is not usually severe enough to cause yield loss.

Leaf, stem and pod lesions are greyish-white to light brown, unlike blackleg lesions white leaf spot lesions do not contain
Pycnidial fruiting bodies (black dots) and usually have a more granular surface compared with the smooth surface of blackleg lesions. Leaf lesions often have a brown margin when they mature, can be up to 1cm in diameter and often join to form large irregular shaped lesions. Spot the difference – identifying fungal diseases on canola shows pictorially and describes the different symptoms of blackleg and white leaf spot.

Nutrient deficient crops have been reported to be more severely affected by the disease. Management recommendations include providing adequate nutrition to reduce crop stress, controlling cruciferous weeds and volunteer canola, plus crop rotation and isolation from previous year’s canola stubble.

Webinar - sclerotinia in your canola

There have been no further reports of sclerotinia to PestFax this week but this does not mean growers should not be vigilant for the disease in their canola crops. There will be an update webinar presented on Wednesday July 22 with information on;

- What does the disease look like?
- What do we need to do?

Register for your preferred time here and after registering you will receive a confirmation email containing information about joining the webinar.

Beware turnip and cabbage aphid infestations

- Goomalling
- Mingenew
- Morawa
- Toodyay

Tim Boyes (Agvivo) reports that in the Goomalling area a canola crop at flowering has at least 90% of flowering spikes infested with cabbage and turnip aphids. The majority of the colonies are from 2-5cm but some plants have colonies that are over 10cm and causing flower abortion. The crop is very moisture stressed and some of the aphid feeding is causing some plant death. He has not noticed any parasitism or fungal infections of the aphids as yet. The crop did have an insecticide seed dressing applied but will now require an in crop spray of insecticide to control the aphids.

Dusty Severtson (DAFWA) reports finding wild radish with over 60% of flower spikes infested with high levels of cabbage and turnip aphids on roadsides between Mingenew and Morawa. He also found aphids moving into the edges of early flowering canola crops with less than 1% of tillers infested so far.

Farmers in the Toodyay area are also reporting high levels of cabbage and turnip aphids infesting radish flower spikes on roadsides, rock heaps and in crop rogues that have survived knockdown sprays. The majority of canola in the area has not reached budding/flowering stage and is not yet attractive to the aphids.

Research conducted by Dusty Severtson (DAFWA) has found that cabbage aphids tend to colonise the crop edge and also prefer colonising plants in the vicinity of tree lines. He also found that aphids will colonise canola at big bud and move onto the primary flowering spike as it is formed. In some situations where the aphids are just beginning to move into the crop a border spray may be all that is required. The threshold for the control of cabbage and turnip aphids is 20% of flowering spikes infested with aphids. Bear in mind aphids can recolonise sprayed crops so vigilance and crop monitoring is recommended because if weather conditions are warm the aphid life-cycle from nymph to adult can be as little as eight days. For more information refer to Aphid Management in canola crops and the Autumn Winter Insecticide Guide 2015 and Winter Spring Insecticide Guide 2015 for registered insecticides to control aphids.

For more information contact Svetlana Micic, Entomologist, Albany on +61 (0)8 9892 8591.

Lucerne flea

- Manmanning
Matt Willis (Elders) reports a Mace wheat crop east of Manmanning with lucerne flea. At present there are only a few patches in the crop so it will continue to be monitored as the amount of damage they can inflict on a crop can increase considerably as the pest approaches the adult stage.

The lucerne flea (*Sminthurus viridis*) is a collembolan or ‘springtail’. Adult lucerne flea are approximately 3mm in size and green-yellow in colour. They work up the plants from ground level, eating tissue from the underside of the foliage. They leave distinctive feeding damage of ‘windows’ of transparent leaf membrane and ‘spring’ off vegetation when disturbed. In the photo the specialised organ called a ‘furcular’ can be seen, this allows them to jump when threatened.

Lucerne flea typically cause significant damage to emerging crops and pastures. They can also cause considerable damage to crops in spring if numbers have built up under favourable conditions throughout the season, though established crops can usually outgrow lucerne flea damage. They are generally a problem in regions with loam/clay soils because of their egg laying requirement. Paddocks are most likely to have problems where they follow a weed infested crop or pasture in which lucerne flea has not been controlled. They have a high natural tolerance to synthetic pyrethroids so should not be sprayed with insecticides from this group. For further reading refer to [Diagnosing lucerne flea](#) and [Lucerne flea – economic considerations](#) on the DAFWA website.

For more information contact Svetlana Micic, Entomologist, Albany on +61 (0)8 9892 8591.

Green peach aphid reports

- Bindi Bindi
- Perenjori
- Ogilvie
- Pithara
- Maya
- Miling

In a canola crop south of Perenjori, Dusty Severtson (DAFWA) has found 10% of the plants with green peach aphids (GPA). With the low moisture conditions the aphids are moving from the leaves onto the flowering racemes. He also noted low levels of GPA north of Maya, low levels on 8-10 leaf canola between Pithara and Miling plus between Bindi Bindi and Miling low numbers on canola leaves at stem extension to early flowering. Jessica Smith (Landmark) also reports finding low levels of GPA in canola crops in west Miling. Chris Pinkney (Agrarian Management) reports a Snapper canola crop at early flowering near Ogilvie with substantial numbers of green peach aphid on the underside of leaves. Chris also commented that the aphid feeding damage was greatest in moisture stressed canola growing on shallow gravel with patches dying. The crop will be sprayed.

The article *Green peach aphids becoming more prevalent* in PestFax issue 7 outlines various control options for GPA. Spraying is only recommended if the crop cannot outgrow feeding damage as GPA develop resistance to insecticides very quickly. There is also more information in the article *Aphids widespread* in PestFax issue 10.
Useful tools and apps

MyPestGuide
Download the app to your mobile phone for convenient pest and beneficial identification, reporting and image recording from the Google Play Store or the Apple iTunes Store. Click the links or search for 'mypestguide'.

MyCrop
MyCrop is an interactive tool that brings crop diagnostics to the paddock. It helps you estimate if you are reaching your wheat yield potential. There is information on identifying your soil type and key soil issues. A free app is available to assist with diagnosing crop problems and provide possible remedies. The MyCrop home page has more information. There are also tutorials to enable you to make full use of the tools. The app is available from the Google Play Store and the Apple iTunes Store by clicking on the links or search for 'mycrop'.

Crop disease forecasts
Links to the latest disease forecasts can be found on the Crop diseases: forecasts and management page on the DAFWA website. There are the updated forecasts for field pea blackspot, canola blackleg and soon the cereal rust and powdery mildew risk forecasts will resume. The 2015 crop disease guide for Western Australia has a summary of the 2014 season and implications for the current season.

List of registered insecticides
A list of registered insecticides to control pests on canola, lupins and cereals is available from the Autumn Winter Insecticide Guide 2015 and Winter Spring Insecticide Guide 2015.

Seed dressings and fungicides
To enable you to make the best decisions regarding which seed dressings or foliar fungicides are effective for controlling diseases DAFWA has compiled information on the chemicals and best practices to protect crops. Relevant information and links are available at Seed dressing and in-furrow fungicides for cereals in WA and Registered foliar fungicides for cereals in Western Australia.

Crop insects: the ute guide
This book covers crop pests, beneficial insects, biological control, grain storage pests and biosecurity pest threats specific to Western Australia. Copies are available from some DAFWA offices for $10 or by mail order by phoning the DAFWA South Perth office on +61 (0)8 9368 3710.

Free insect identification
Having troubles identifying mites or other pests? Try the MyPestGuide, alternatively send your digital pictures (in focus) or live specimens (in a non-crushable plastic jar) to Alan Lord or Svetlana Micic at the postal details below.

Had any redlegged earth mites survive spray applications?
Find out if the mites are resistant to commonly used insecticides. Contact Alan Lord or Svetlana Micic at the details below to arrange for your property to be tested.

Svetlana Micic, DAFWA Albany
444 Albany Highway,
Albany WA 6330
Email: sveltana.micic@agric.wa.gov.au
Phone: +61 (0)8 9892 8591 or +61 (0)427 772 051
IPM guidelines for grains website

The integrated pest management (IPM) guidelines for grains website provides a comprehensive collection of tools and strategies to manage pests in grain cropping systems across Australia. The site contains an extensive range of supporting IPM information, external links to additional information, as well as a series of images to help users identify individual pest and beneficial species.

Other DAFWA updates and outlooks

AgMemo provides growers and industry with regionally-tailored information so they can make proactive discussions for the coming season.

AgTactics provides up to the minute information on local issues affecting farming in the broadacre agricultural area. AgTactics is produced primarily throughout the growing season when critical farming decisions are required.

The Seasonal Climate Outlook is a monthly newsletter that summarises climate outlooks for the next three months produced by DAFWA’s Statistical Seasonal Forecast system specifically for the Western Australian wheatbelt and by the Bureau of Meteorology.

All Page Links

[4] mailto:keshab.kandel@sydney.edu.au
[10] mailto:geoff.j.thomas@agric.wa.gov.au
[13] https://www.youtube.com/channel/UCGQqkODZkjtqCAwXgnAh-Og
[19] mailto:kithsiri.jayasena@agric.wa.gov.au
[20] mailto:fran.lopezruiz@curtin.edu.au
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