Protecting WA Crops

Issue: 50
Date: July 2025

Contents

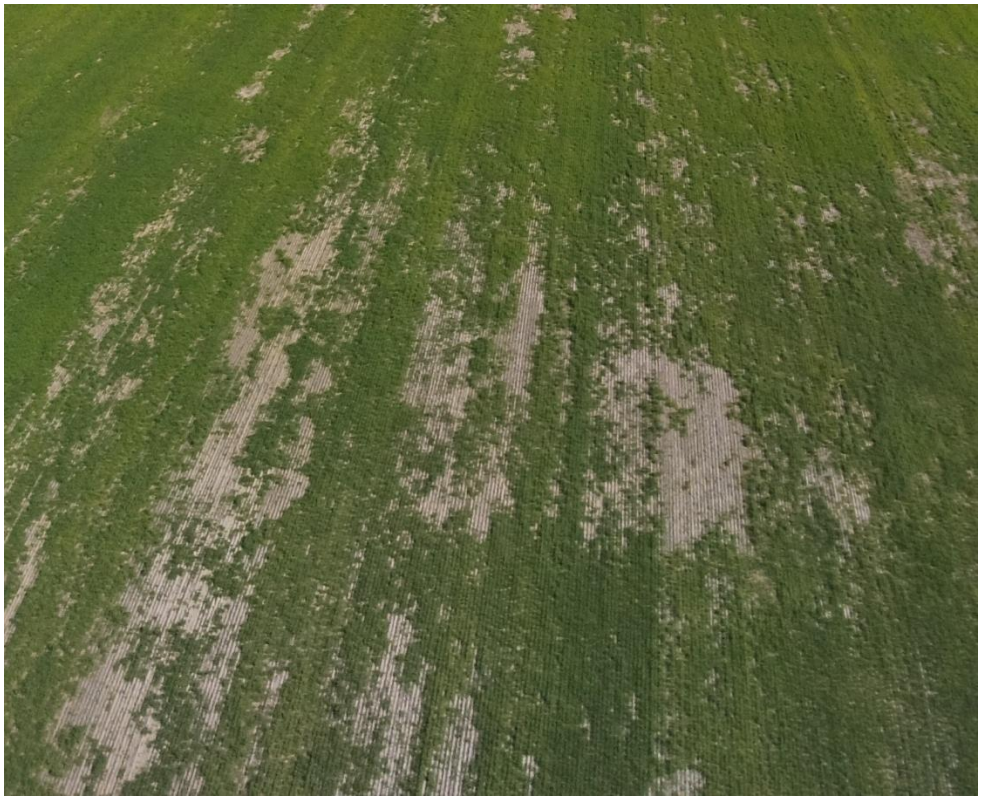
New research project investigates management strategies for the control of cockchafers

At a glance:

- Scarab beetle larvae (cockchafers) are causing increasing and more widespread damage to cereal crops in the grainbelt of Western Australia (WA).
- Effective management is difficult due to the diversity of scarab species, their underground life stage making insecticides ineffective, and reduced options for management including limited chemistries.
- A three-year project, with investment from both the Department of Primary Industries and Regional Development (DPIRD) and the Grains Research and Development Corporation (GRDC), began in May 2025 to explore management options for pest scarab species.

Scarab beetles are a diverse group commonly found throughout the grainbelt, occupying a wide range of environments and habitats. While many scarab species are native and generally harmless to crops – some even beneficial – a small number are considered pests, particularly to cereal crops. Their larvae, known as cockchafers, can cause serious damage by feeding on the roots and crowns of cereal plants, resulting in significant yield losses, although such outbreaks tend to be sporadic.

Over the past five years, reports of crop damage caused by cockchafers have increased, including from species that are still undescribed or previously unknown. Persistent infestations in the Lakes and Kondinin districts have become a growing concern for local growers, with some paddocks showing sustained pest populations and more widespread damage to barley crops. More recently, cockchafer activity has also been reported in the Great Southern agricultural region, where some paddocks have experienced plant losses of 5–6% and some isolated crops experiencing >80% plant loss.



Cockchafer damage in a barley paddock at Kondinin. Image: DPIRD.

Managing cockchafer infestations is particularly challenging due to the diversity of scarab species, each with unique life cycles, behaviours, and responses to control methods. Contact insecticides are largely ineffective, due to larvae remaining below the soil surface, and growers have reported poor control using foliar sprays and common seed dressings. With chemical control options becoming increasingly restricted – particularly following the loss of chlorpyrifos – effective management is becoming more difficult.

To address this issue, a new three-year project commenced in May 2025 to investigate management strategies for pest scarabs in WA grain crops. Led by DPIRD, the project is co-funded by the GRDC.

A field surveillance program, led by Senior Research Scientist Dusty Severtson, is already underway to collect and identify scarab larvae. In addition, a field trapping initiative will monitor adult scarab activity across different species, helping to develop targeted management strategies and improve understanding of the onset and duration of crop damage.

Additionally, glasshouse and/or field trials will be used to evaluate chemical and cultural management approaches for different species of cockchafers, thus linking species with effective control methods.

As part of the GRDC's National Grains Diagnostic and Surveillance initiative, in which DPIRD participates, scarab beetle larvae collected across the grainbelt will have their DNA screened to assist with identification and to map the potential distribution of key pest species across WA.

DPIRD encourages growers and consultants to report any sightings or suspected cockchafer damage through the PestFacts WA Reporter app or by emailing pestfactswa@dpird.wa.gov.au.

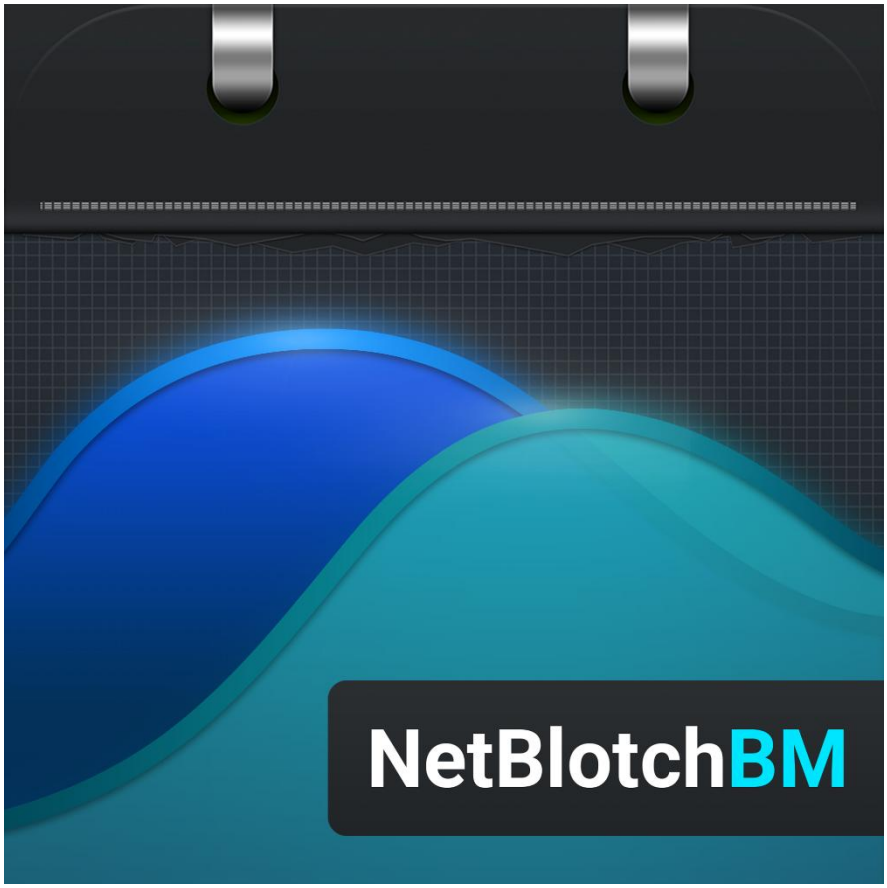
For more information, refer to DPIRD's PestFacts newsletters Issue 7, 13 June 2025 Are cockchafers damaging your cereal crops? We want to hear from you and Issue 3, 31 May 2024 Cockchafer larvae are damaging crops.

Acknowledgement

DAW2505-006RTX. NGN: Exploration of Management Strategies for Pest Scarab Species of Australian Grains.

DAW2305-004RTX. DPIRD - National Grains Diagnostic and Surveillance Initiative (NGDSI).

Foliar fungicide decisions – to spray or not to spray



At a glance:

- A suite of decision support tools have been developed to assist growers with foliar fungicide decisions for some of the most common crop diseases.
- All of these apps are available for download from the App store or Google Play.
- A new app – NetBlotchBM has been released to aid in management decisions for net blotch diseases in barley.

Decisions about foliar fungicide applications for crop disease management requires careful consideration. The risk of crop losses must be balanced with the costs of fungicide application, both financial as well as future risks of developing fungicide resistance. Multiple factors influence the impact of foliar fungicide application and resultant return on investment including but not limited to crop growth stage, environmental conditions, crop rotation, varietal resistance, seed-treatments and disease observations.

To support growers in making informed and confident decisions, DPIRD, in partnership with the GRDC and other collaborators, has developed a suite of decision support tools (apps) under the *Disease epidemiology, modelling and delivery of decision support tools* project, led by Principal Research Scientist Jean Galloway. These tools are built on years of field trials, observational data, experimental research, and expert knowledge from contributors across Australia.

The apps are designed to help growers improve profitability from disease management decisions. Each app allows users to input paddock-specific information and assess best-case, worst-case, and most likely scenarios in terms of yield and economic return for various fungicide management scenarios. Available on both Android and Apple devices, the apps are easily accessible and allow reports to be emailed directly from the app to consultants or plant pathologists for further assistance, or to provide feedback on development of the tools.

NetBlotchBM App

NetBlotchBM, the latest addition to the suite of tools, was released in June 2025. It is designed to assist growers with the management of both net and spot forms of net blotch in barley. It estimates likely disease severity, yield loss, and economic returns based on user-provided inputs. These include risk factors such as paddock history, crop variety, seasonal conditions, grain prices, and management strategies. The app allows users to compare different management options, including no treatment, one spray, or two fungicide applications.

NetBlotchBM has been developed in a collaboration with Agriculture Victoria (AgVic) and Queensland Department of Agriculture and Fisheries (QDAF) and can be used on iPhones/iPads, Android phones and tablets.

For more information on this app refer to DPIRD's NetBlotchBM webpage or the Managing Net blotch diseases in barley and NetBlotchBM decision support tool webinar.

YellowSpotWM

YellowSpotWM is a decision support tool developed to assist in managing yellow spot (also known as tan spot) in wheat.

The app considers key factors that influence yellow spot severity, allowing users to enter parameters that best reflect their circumstances.

YellowSpotWM helps growers evaluate the likely profitability of various disease management options – such as paddock and variety choice, in-furrow fungicides, and foliar fungicide applications. It incorporates the costs, potential yield gains, grain price, and seasonal variability to provide best-case, worst-case, and most likely financial return estimates.

Additionally, the app includes up-to-date resistance ratings for all current wheat varieties, ensuring growers have access to the latest information for variety selection and disease risk assessments.

For more information on the YellowSpotWM app, refer to DPIRD's YellowSpotWM webpage.

SclerotiniaCM

Sclerotinia stem rot in canola is an unpredictable disease and highly influenced by weather conditions making management decisions difficult. With the PestFacts WA team receiving reports that this disease is starting to appear in canola crops in some areas of the grainbelt, the SclerotiniaCM app will give growers and consultants more confidence in decisions about whether to invest in fungicide spraying for the disease.

SclerotiniaCM allows the user to specify individual paddock data as well as recent and expected weather conditions to determine the likely sclerotinia severity, yield loss and

economic return from no fungicide application vs single or multiple foliar fungicide applications.

SclerotiniaCM is updated regularly as new research findings and trial results become available. More information on this app is available at DPIRD's SclerotiniaCM webpage.

BlacklegCM and UCI BlacklegCM

BlacklegCM and upper canopy infection (UCI) BlacklegCM complement SclerotiniaCM in the suite of decision support tools for the management of diseases in canola.

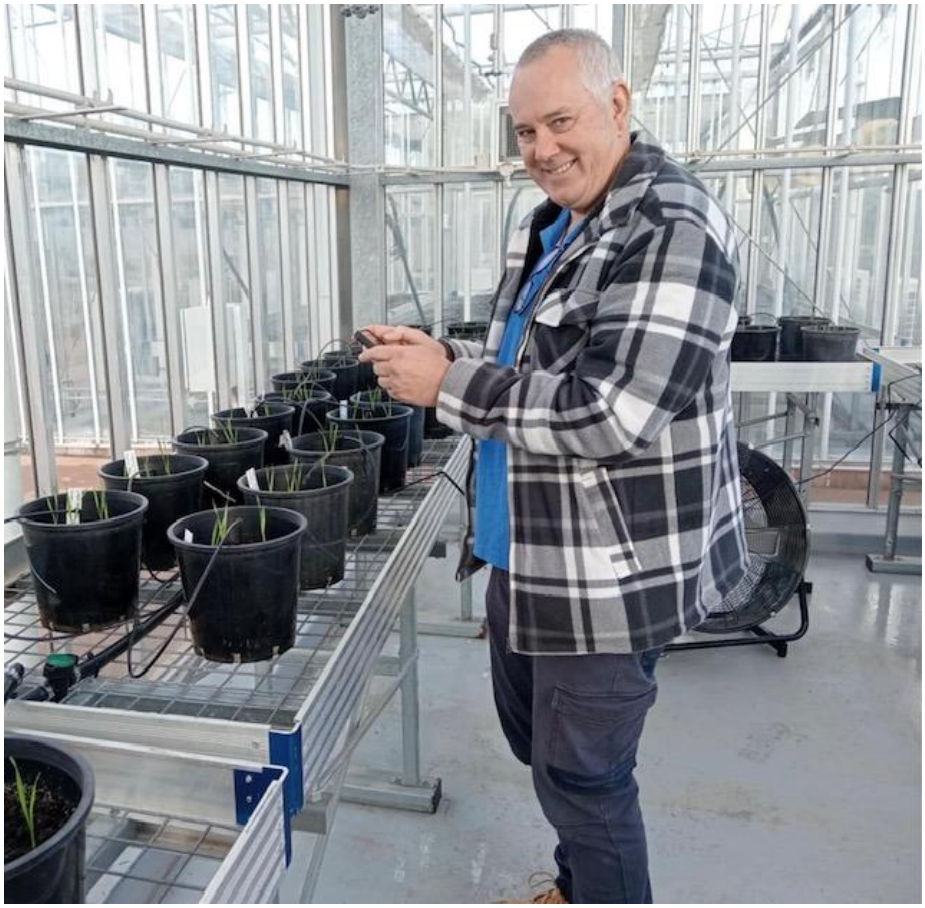
BlacklegCM aids in disease management decisions for blackleg crown canker infections during the sowing and early vegetative stage of the canola crop, while UCI BlacklegCM is for upper canopy infections from first flowering onwards. It helps determine if a fungicide spray applied during early flowering (10-30% bloom stage) will reduce the incidence and severity of blackleg upper canopy infections in canola crops. Research into blackleg UCI is ongoing and UCI BlacklegCM is updated regularly as trial results become available.

For more information on these apps, refer to DPIRD's BlacklegCM and UCI BlacklegCM webpages.

Acknowledgement

The Disease epidemiology, modelling and delivery of decision support tools project (DAW2112-002RTX) is a joint collaboration between DPIRD and the GRDC. Development and field testing of the apps has been done in collaboration with pathology experts from Agriculture Victoria, Marcroft Grains Pathology, New South Wales Department of Primary Industries, South Australian Research and Development Institute, Queensland Department of Agriculture and Fisheries, University of Southern Queensland, University of Melbourne, and the Commonwealth Scientific and Industrial Research Organisation.

Meet Crop Protection team member – Glen Schindler



Glen Schindler is a DPIRD technical officer based in Northam, working in the broadacre systems Plant Pathology team.

Born and mostly raised in East Fremantle, WA (with a few years spent in Queensland), Glen began his career in science after completing a Diploma in Laboratory Techniques at Mount Lawley TAFE. Glen spent a decade working in laboratory roles before packing up and heading to Europe where he lived and worked in Amsterdam for nearly 16 years, mostly in hospitality, before returning home to Australia to start a new chapter.

Since coming back, Glen has explored a wide range of roles – from retail and aged care to administration work within the Education Department. During this time, he also studied remedial massage and various sound therapy modalities.

In 2022, Glen moved to Toodyay, buying a little cottage that he restored and made his own. Not long after settling in, he joined Australian Grains Technologies in Northam on a short-term casual role that extended to five months. This experience opened the door to an opportunity with DPIRD, where he began working part-time in various capacities eventually working full-time in Crop Protection on plant pathology projects.

When not at work, you'll find Glen at home with his small menagerie of animals – which includes four cats, two geese, and fifteen chickens. As Glen comments, 'life's never dull with that crew!'

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