REOCCURRING WILT

Reoccurring wilt is an emerging disease of Australian cotton caused by the fungal pathogen, *Eutypella* sp. While symptoms resemble sudden wilt, the disease can reoccur in the same areas of a field each season.



FACT SHEET

THE PATHOGEN

Reoccurring wilt was first observed in Australian cotton during the 2017-2018 season. It is the first known report of a novel *Eutypella* species (family Diatrypaceae) causing disease in cotton, although other species within this family are well-known pathogens of woody plants. While the pathogen has been linked to reoccurring wilt, the factors influencing disease development are not yet fully understood. To date, reoccurring wilt has most commonly been observed in areas of fields with poor crop growth, and anecdotal observations suggest the disease may be associated with plant water stress.

SYMPTOMS

Externally the first visible symptoms of reoccurring wilt are the bronzing of the leaves and petioles, followed by blackening of the stem. As the disease progresses, individual plants (or patches of plants) suddenly wilt and die, with dead leaves often remaining attached. The disease can affect plants from squaring onwards. Affected patches typically reappear in the same areas of the field and may expand over successive seasons, regardless of seasonal conditions.

Internally infected plants develop reddening of the roots and vascular tissue, and when stems or taproots are cut horizontally, a distinctive wedge-shaped reddish-grey discolouration may be visible. As the disease progresses, root decay develops and the taproot becomes dry and brittle, often snapping when affected plants are removed from the soil.

The Australian Cotton Disease Collaboration (the ACDC) are developing reference genomes for key cotton pathogens, including Eutypella sp. These genomic resources will improve understanding of pathogen biology and virulence, support the development of more accurate diagnostic tools, and enable monitoring of pathogen diversity and the emergence of new or more virulent strains. Together, this research will strengthen pathogen identification and disease surveillance in Australian cotton crops.



Patch of cotton plants affected by reoccurring wilt. Image credit: Dinesh Kafle (QDPI)



Stem cross-sections showing the characteristic wedge-shaped internal discolouration associated with reoccurring wilt. Image credit: Dinesh Kafle (QDPI)

ECONOMIC IMPACT

Reoccurring wilt has been found distributed across many Australian cotton growing regions including Central Queensland, St George, Border Rivers, Western Downs, Mungindi, Walgett/Bourke, the Gwydir, and the Namoi. However, as a newly-identified disease, the impacts on yield are not well studied.

CURRENT MANAGEMENT PRACTICES & ONGOING RESEARCH

Monitor and diagnose diseases accurately
Conduct regular disease surveys to monitor disease incidence and severity over time. Collect plant samples for diagnostic testing, particularly where symptoms may resemble other diseases, as some fields can contain a complex of pathogens and diseases.

The ACDC provides ongoing diagnostic support to help growers and consultants identify pathogens and is building a national database on the prevalence and distribution of cotton diseases across the Australian cotton industry. For more information, contact Dr Dinesh Kafle, dinesh.kafle@dpi.qld.gov.au.

Bury crop residues after harvest
Glasshouse trials indicate that *Eutypella*-infected cotton residues are a source of pathogen inoculum. When infected stem residues were buried just under the soil surface next to the stem of cotton seedlings, plants became infected and died, expressing typical symptoms of the disease. Ensure infected residues have broken down before planting the field back to cotton to reduce the risk of disease infection.

The ACDC is investigating Eutypella spp. associated with reoccurring wilt in cotton through a PhD research project, undertaken by Muhammad Zahaib Ilyas, examining pathogen biology, infection process and host range. This research is investigating how the pathogen infects cotton, its life cycle and spore production, and the compounds they produce during infection and interactions with other pathogens. It is also assessing the susceptibility of commercial cotton varieties, commonly grown summer and winter crops, and weeds to identify potential non-host rotation crops and species that may allow the pathogen to persist between cotton seasons. These findings will help improve our understanding of disease development and inform future management recommendations. For more information, please contact Dr Cassy Percy, cassy.percy@unisq.edu.au.

Practice good farm biosecurity and hygiene including weed management
Ensure all people, vehicles and machinery arriving on-farm follow Come Clean. Go Clean protocols and are free of soil and plant debris before entering production areas. Control volunteer and ratoon cotton, as these plants can allow the pathogen to survive and reproduce between cotton crops.

The ACDC is evaluating spore trapping as a tool to detect and monitor the aerial dispersal of important cotton pathogens, including those causing leaf spot diseases and reoccurring wilt. Understanding when spores are released and how they move through cotton growing regions will improve knowledge of disease epidemiology, support surveillance programs and help identify opportunities for more timely and effective disease management. For more information, please contact Dr Dinesh Kafle, dinesh.kafle@dpi.qld.gov.au.

Developed November 2026
by Sharna Holman-Buckley, CottonInfo Disease and Biosecurity Technical Lead/QDPI.

For further information
www.cottoninfo.com.au
www.unisq.edu.au/research/the-acdc

THE ACDC The Australian Cotton Disease Collaboration
IS AN INITIATIVE OF CRDC
IN PARTNERSHIP WITH UniSQ Queensland Government
CottonInfo IS A JOINT INITIATIVE OF CRDC CSD COTTON SEED DISTRIBUTORS COTTON AUSTRALIA
BEST PRACTICE