

# Exotic cotton diseases

## Bacterial blight (exotic hypervirulent races\*)

\*Hypervirulent races are extremely infectious or damaging forms of a disease.



Blight lesions.

Photo: Clemson University, Bugwood.org



Lesions along the vein.

Photo: Texas A&M University, USA



Water soaked lesion.

Photo: Texas A&M University, USA

## What to look for?

Exotic races of this disease will infect Australian cotton strains that are currently resistant to bacterial blight.

### Leaves:

- Angular water soaked spots become brown with age
- Lesions along the vein

### Stems:

- Lesions on stems
- Weakened stems break causing 'black arm'

### Bolls:

- Water soaked spots become brown with age

## How is this disease spread?

- Infected seed
- Rain splash from crop residues and infected leaves

This disease is not currently found in Australia.

If you see these symptoms, call the **Exotic Plant Pest Hotline on 1800 084 881.**

Email photos and questions to [biosecurity@dpi.nsw.gov.au](mailto:biosecurity@dpi.nsw.gov.au)

# Exotic cotton diseases

## Cotton leaf curl disease



Infected cotton plant.  
Photo: Dr Rob Briddon, NIBGE



Enation on the underside of cotton  
leaf. Photo: Dr Cherie Gambley, QDAF



Leaf cupping and thickening of  
veins. Photo: Dr Cherie Gambley, QDAF

### What to look for?

#### Leaves:

- Curling margins
- Downward cupping of youngest leaves
- Swelling and darkening of veins
- Leaf like growths (enations) extending from veins on lower side of the leaf

#### Plants:

- Stunted

### How is this disease spread?

- Virus vectored by silverleaf whitefly (*Bemisia tabaci*)

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# Exotic cotton diseases

## Cotton blue disease



Infected cotton plant.  
Photo: Murray Sharman, QDAF



Severely stunted cotton plant.  
Photo: Murray Sharman, QDAF



Yellow veins and downward rolling  
of the leaf edges. Photo: Murray  
Sharman, QDAF

### What to look for?

#### Leaves:

- Downward rolling
- Intense green/bluish colour
- Yellowing of minor veins
- Brittle and leathery texture

#### Stems:

- Shortened internodes
- Many branches
- Dark purple colour

#### Plants:

- Stunted
- Odd growth form

### How is this disease spread?

- Virus vectored by cotton aphid (*Aphis gossypii*)

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# Exotic cotton diseases

## Fusarium wilt (exotic races)



Infected cotton plant.  
Photo: Dr Rory Hillocks, NRI



Internal discoloration of stem.  
Photo: Clemson University, Bugwood.org



Internal discoloration of tap root.  
Photo: Clemson University, Bugwood.org

### What to look for?

Exotic races of this disease will infect Australian cotton strains that are currently resistant to fusarium wilt and can cause greater damage to susceptible strains.

#### Plant external:

- Stunted growth
- Wilted leaves
- Yellowing or browning
- Plant death

#### Plant internal:

- Brown discoloration of stem tissue and tap root

### How is this disease spread?

- Fungal spores in soil and water
- Infected plant material
- Infected seed

This disease is not currently found in Australia.

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# Exotic cotton diseases

## Texas root rot



Texas root rot in a cotton field.  
Photo: Dr Karen Kirkby, NSW DPI



Dead cotton plants.  
Photo: Dr Karen Kirkby, NSW DPI



Stem girdling and white fungal strands. Photo: Bill Tyrwhitt, ACGRA

### What to look for?

#### Plants:

- Wilt in hot weather
- Stems girdled at soil level
- Plants die but leaves remain attached
- Roots covered in white to tan coloured fungal strands

#### Fields:

- Expanding circular patches of dead plants

### How is this disease spread?

- Fungal spores in soil
- Roots of infected host plants

This disease is not currently found in Australia.

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# Exotic cotton pests

## Cotton boll weevil



Adult cotton boll weevil.  
Photo: Alton N. Sparks, Jr., University of Georgia, Bugwood.org



Cotton boll weevil larva in boll.  
Photo: Clemson University, Bugwood.org



Puncture mark in a cotton square.  
Photo: Clemson University, Bugwood.org

### What to look for?

#### Insects:

- Adults grey-brown, 5mm long
- Double-toothed spur on front legs
- Larvae in bolls

#### Plants:

- Puncture marks in squares and bolls
- Discoloured bolls
- Boll rot and abortion
- Feeding damage on leaves
- Dead leaves remain on the plant as 'black flags'

### How is this pest spread?

- Adults fly up to 40km between crops

This pest is not currently found in Australia.

If you see this pest, call the **Exotic Plant Pest Hotline on 1800 084 881.**

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# Exotic cotton pests

## Tarnished plant bug



Adult tarnished plant bug.  
Photo: Scott Bauer, USDA Agricultural  
Research Service, Bugwood.org



Tarnished plant bug nymph.  
Photo: Scott Bauer, USDA Agricultural  
Research Service, Bugwood.org



Feeding damage on cotton bolls.  
Photo: Barry Freeman, Auburn University,  
Bugwood.org

### What to look for?

#### Insects:

- Adults have multicoloured 'tarnished' appearance
- Colour varies from reddish brown to black, with pale yellow markings
- Nymphs are yellowish green with four black spots on the thorax and one on the abdomen

#### Plants:

- Feeding damage to buds, bolls and leaves
- Shoot blackening
- Dieback
- Stunted growth
- Discoloured lint

### How is this pest spread?

- Adults fly up to 15m per day

This pest is not currently found in Australia.

If you see this pest, call the **Exotic Plant Pest Hotline on 1800 084 881.**

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