

Wheat blast

What is wheat blast?

Wheat blast, caused by the plant fungus *Magnaporthe oryzae* pathotype *Triticum*, is a fast-acting severe disease of wheat that causes bleaching of the heads. It lowers yields and, where conditions are favourable to the fungus, can cause complete yield loss. Currently fungicides are not effective against the fungus.

The disease poses an increasing threat to grain growing regions in warm, humid and wet environments. First found in Brazil in 1985, it spread quickly through South America infecting around three million hectares of wheat within a decade. In 2016 it made it across to Bangladesh, and in 2020, it was confirmed in Africa, in crops in Zambia.

Wheat blast can have devastating effects on wheat production—in 2009 wheat blast reduced Brazil's national wheat production by 30 per cent.

The disease spreads in contaminated seed and spores can spread it relatively long distances in the wind.

What does it look like?

Wheat blast causes progressive bleaching of the heads, lower yield and poor seed quality. Stems and leaves are discoloured, with dark brown, eye-shaped lesions on leaves. Sometimes dark grey spores can be seen. Wheat blast can shrivel and deform the grain in less than a week from the first symptoms.

What can it be confused with?

Head damage can be similar to diseases like Fusarium head blight and the white heads of crown rot. It could also be mistaken for drought stress and deficiencies of micro nutrients such as copper.

What should I look for?

Patches of bleaching heads in paddocks. Wheat blast infects all above ground plant parts and causes leaf lesions and head blight. Seeds in infected heads are shrivelled, small and low quality. In severely diseased wheat heads the seed may be absent.

The disease takes hold in warmer regions (18 to 30°C) with high humidity (>80%).



Wheat head affected by wheat blast.

C. Cruz, Purdue University



A severely blast affected wheat field, with many infected heads.

C. Cruz, Purdue University

How does it spread?

Contaminated seed is the most likely way wheat blast will spread into a new continent or region, but there are concerns that in time wind-blown spores might bring the disease from south-east Asia into Australia's north.

Once established it can be spread naturally from plant to plant and from paddock to paddock through the forces of wind and rain. Movement of contaminated farm machinery, vehicles, and people will hasten the spread.

Where is it now?

Widespread in South America, now in Bangladesh and recently found in Africa, where it is expected to spread quickly.

How can I protect my farm from wheat blast?

Grain growers should bring only certified seed onto their properties. People returning from overseas can pose a threat, particularly if they have visited crops or farms.

Maintaining cleanliness of machinery used on the farm and managing visitors to the farm will help should the disease make it to Australia.

Early detection is crucial in stopping or slowing progress of a new pest. Monitor your crops regularly for anything unusual, and call in a specialist without delay to help identify anything unfamiliar.

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



Typical eye-shaped lesions on wheat leaf.

C. Cruz, Purdue University

GRAINS FARM BIOSECURITY PROGRAM

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1800 084 881

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