

## 15.1 Background

**White grain disorder, previously known as botryosphaeria head blight, is caused by three fungal species, *Eutiarospora tritici-australis*, *E. darliae* and/or *E. pseudodarliae*. Affected grains are light grey to white and symptoms are similar in appearance to infection with fusarium head blight, which is associated with the production of mycotoxins, harmful to humans and livestock.**

White grain disorder, unlike fusarium head blight, has not been shown to produce such harmful mycotoxins in infected grains, but the similarity of symptoms between both diseases has led to downgrading or rejection of affected wheat at some receival sites.

White grain disorder has predominantly been observed in bread wheat, but can also infect barley and durum crops.

### IMPACT

- White grain disorder occurs infrequently.
- If prolonged periods of high humidity occur after a rain event during flowering and grain filling, management strategies should focus on checking grain for infection and minimising losses at harvest.
- Receival standards for white grain disorder in wheat are set at maximum limit of 1 to 5% (check with local facility).
- Yield loss in affected heads can be high, but the number of heads affected is usually low unless the season is highly conducive to the disease i.e. during very wet years.



IMAGE: MARG EVANS, SARDI

## WHERE DAMAGE IS MORE LIKELY

- White grain disorder requires high spore numbers and more than 24 hours of high humidity following a rain event during flowering or grain filling.
- Likelihood of disease increases when the periods of high humidity increase.
- White grain disorder occurs infrequently in southern Qld and even less often in northern NSW, often in mixed infections with fusarium head blight during seasons with frequent rainfall during grain filling.
- Occurs infrequently in South Australia under similar environmental conditions.
- Was detected for the first time in WA grain in 2013.
- White grain disorder is infrequently present at trace levels in WA wheat deliveries; predominantly occurs in wetter, southern regions of WA.
- In northern NSW and southern Qld white grain disorder was originally described in barley, but in 2010 and 2016 it primarily infected bread wheat and durum crops.
- In South Australia symptoms have mainly been identified in bread wheat.

- Potential to occur in Victorian Mallee.
- Systems using overhead irrigation.
- Where cereal stubble is retained.

## HOW TO USE RESULTS

- PREDICTA B can identify paddocks with the potential to develop white grain disorder.
- When seasonal conditions are conducive for infection, growers should check for symptomatic grain and plan to harvest high risk paddocks first.
- Confirm diagnosis in-crop by testing grain samples: identifying symptoms as white grain disorder rather than fusarium head blight means infected grain can be safely sold into feed markets.

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