

Yellow Spot Of Wheat

Levels of yellow spot of wheat in 2008 are the highest for several seasons.

Yellow spot is caused by the fungus *Pyrenophora tritici-repentis*. In other countries the disease is often called tan spot.

Yellow spot is widespread in Northern New South Wales and Queensland and when conditions favour the disease, it can cause losses exceeding 50%, reducing yield and quality.

To infect wheat, the yellow spot fungus requires free moisture on the leaves for a minimum of 4 to 6 hours. Infection occurs over a wide range of temperatures, from 5 to 30 °C, but optimum 20 to 28 °C. The fungus requires free moisture for infection and sporulation, therefore yellow spot increases rapidly under extended wet conditions.

The disease survives on wheat stubble and hence is favoured by reduced tillage. The advantages of reduced tillage far outweigh the economic losses due to yellow spot.

Symptoms:

The first sign of the disease is small yellow or dark spots on the leaf. These develop into yellow lesions or spots becoming oval in shape. As they grow the lesions turn tan in colour with a yellow border and a dark centre, best seen when held up to the light. As more lesions develop, they coalesce producing large irregular, dead patches on the leaves and leaf sheaths. All above ground tissue can be infected. After harvest under further wet conditions, infested stubble produce small black raised fruiting bodies that provide primary inoculum for the succeeding crop.

Management:

- Avoid sowing wheat into infected stubble. Infected stubble can be identified by the presence of black fruiting bodies.
- Rotate infested areas into non-host crops, eg barley, oats, chickpeas, faba beans.
- Reduce the amount of surface stubble prior to sowing.
- Resistant varieties Ellison and Leichhardt are the most resistant varieties currently available.

Fungicides registered for control of yellow spot in Australia include:

- Propiconazole
- Tebuconazole
- Azoxystrobin + Cyproconazole
- Propiconazole + Cyproconazole

As with many foliar diseases of wheat, it is important to protect the flag leaf which contributes most to wheat yield and quality. The two leaves below the flag are also important but contribute less to grain fill. Hence fungicide application must be timed to protect the flag leaf and, if possible, the two leaves below.

Often application of fungicide at 90 % flag leaf emergence will give good results. However spraying can be later if disease levels are low. Fungicide should be applied before disease levels reach 10 to 15% on leaf flag -2.

All current fungicides should be regarded as protectants and therefore function best when applied before major infection.

The above is given as general advice only. Always read and adhere to the fungicide label. In particular observe the dosage, re-entry and withholding periods.

Peter Wilkinson & Greg Platz
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8 September 2008

DPI & F Business information Centre open from 8 am to 6pm Monday to Friday (telephone 132523 for the cost of a local call within Queensland; interstate callers 07 3404 6999) or email call web@dpi.qld.gov.au

Photos: Yellow spot of wheat:



Yellow spot affected wheat

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