

# Which cereal seed treatment?

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Seed treatments are required on wheat and barley irrespective of seasonal conditions despite there being a reduced incidence of foliar diseases in dry years. For example, over the past two seasons in SA we have seen an increased incidence of powdery mildew in both crops. The fungi that cause powdery mildew in wheat and barley are specific to each species so the same fungus cannot spread from one crop to the other. There are separate reasons for powdery mildew infecting wheat and barley although the presence of summer volunteers would have favoured both mildew pathogens.

In barley the principal reason is likely to be the use of a seed treatment to suppress *Rhizoctonia* and/or *Pythium* but one that doesn't control powdery mildew.

## Wheat

The principal reason for using a fungicide at sowing for wheat crops is for the control of smuts and so regular use of a suitable product is recommended as a minimum treatment.

But where control or suppression of other diseases is required then a broader-spectrum seed or in-furrow treatment is needed. Caution should be used in using these products (other than triticonazole) as they may reduce coleoptile length and cause emergence problems under some conditions. For example, Wyalkatchem has a shorter coleoptile than most other varieties and can be more seriously affected by these treatments.

**Stripe rust:** Where stripe rust first arrives after July, benefits of most seed treatments against this disease are likely to be very limited. But in these situations the longer efficacy of treatments based on fluquinconazole or fertiliser applied fungicides may provide some benefit against stripe rust in prone areas.

The timing and location of the first occurrence of stripe rust each season has been quite unpredictable. Rust is most likely to occur early where summer volunteers allow the rust to survive over summer. For example, in some years stripe rust is thought to have spread into South Australia from early sown crops growing in eastern Australia.

**Take-all:** Where wheat is to be sown in a paddock with high risk of take-all, then treatments including fluquinconazole – one of the in-furrow treatments with fertiliser – could be considered. Alternative crops should also be factored into the planning process.

A Predicta-B soil diagnostic test for the risk of take-all is available through agronomists.

**Powdery mildew:** Although no seed treatments are currently registered for control of powdery mildew in wheat, some useful control can be expected from products that control powdery mildew in barley.

## Barley

For barley it is strongly recommended that a treatment be used in order to reduce the incidence of powdery mildew in crops due to the speed with which this disease can spread through a region.

Where net form net blotch has been observed in crops used for seed, then thiram should be considered for use as this chemical provides the most effective control of seed borne net form net blotch.

## Smut control

Wheat, barley and oat seed should be treated to control bunt, flag and loose smut in wheat, covered and loose smut in barley and smut in oats. These diseases generally occur at low or trace levels but, in the absence of seed treatments, they have the potential to increase rapidly causing significant economic losses to growers.

Where farmers decide not to treat seed for one year, they are advised to treat the following year.

Where infection is observed, growers are advised to buy new seed and use the full rate of seed treatments. Ensure that any machinery that has been in contact with the diseased seed is cleaned. The accepted tolerance levels are nil for bunt and three infected pieces in half a litre of grain for loose smut. Any wheat exceeding these limits will not be accepted.

There is a nil tolerance level for any smutted barley or oat grain.

Flag smut can be a serious problem in susceptible wheat varieties such as Machete and Wyalkatchem. Flag smut spores can survive on seed and in soil. Where the disease is found, new seed – preferably of a resistant variety – should be bought and seed treatment used.

## Emergence problems

Several factors can cause poor seedling emergence: these include some of the stronger seed treatments, deep sowing, surface crusting, short coleoptile varieties, soil temperatures and trifluralin.

Sowing too deep is a common cause of emergence problems as the coleoptile can fail to emerge.

Because coleoptile lengths vary from one variety to another some varieties can tolerate deeper sowing than others. Of the current wheat varieties most have intermediate length coleoptiles although Wyalkatchem has a shorter coleoptile.

Coleoptile lengths vary greatly from one batch of seed to another so the source of seed is often more critical than the variety in determining coleoptile length.

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