Other seedling blights

Fusarium graminearum

***F. graminearum* is the main *Fusarium* species causing seedling blight. Most other *Fusarium* species do not produce seedling blights.**

IDENTIFICATION

The most common symptom of a serious attack is poor plant establishment. The fungus also causes root rotting, brown foot rot and ear blight.

Many of the 14 *Fusarium* species isolated from UK wheat crops can cause ear blights, but few cause seedling blights.

ECONOMIC IMPORTANCE

F. graminearum is the only *Fusarium* species that can cause significant seedling losses in the UK.

LIFE CYCLE

F. graminearum survives mainly on crop debris, but may also be carried on the seed. The resulting seedling blight or stem-base browning releases spores, which are then splashed up the plant – ultimately infecting the ear.

RISK FACTORS

- ☐ **high level of seed infection**
- ☐ **untreated seeds sown into poor seedbeds**
- ☐ **late-sown crops**
- ☐ **maize in the rotation.**

CONTROL

Seed treatments are very effective at controlling *Fusarium* seedling blight. Most seed treatments provide good protection.

Threshold for seed treatment

10% or more seed infection.

Septoria nodorum

A particular problem in the south-west where severe foliar and ear symptoms can occur. It may lead to high levels of seedling blight on seed from infected crops.

IDENTIFICATION

Very poor plant establishment, due to pre- and post-emergence seedling blights, is the most common symptom. Effects are very similar to those caused by *Microdochium nivale*.

Only laboratory analysis distinguishes between the two.

ECONOMIC IMPORTANCE

While much less important than *Microdochium nivale*, high infection levels can severely impair establishment.

LIFE CYCLE

Like the *Fusarium* species, *S. nodorum* can survive between crops either on seed or plant debris. The seed-borne fungus is the main cause of Septoria seedling blight.

RISK FACTORS

- ☐ **slow germination and emergence**
- ☐ **poor seedbeds**
- ☐ **cold, wet soils.**

CONTROL

Seed treatment will reduce the risk of Septoria seedling blight. Most seed treatments provide good protection.

Threshold for seed treatment

10% or more seed infection.

Cochliobolus sativus

While more common in hotter climates than the UKs, seedling losses can occasionally result.

IDENTIFICATION

Symptoms are similar to those of *Microdochium nivale*, with brown spotting on lower leaves.

Severe infections result in stem-base rotting and even poor ear filling on rare occasions. While seed-borne infection can kill seedlings, infected plants usually grow to maturity.

ECONOMIC IMPORTANCE

Not a serious threat to UK crops.

LIFE CYCLE

This fungus is soil- and seed-borne. It can survive on crop debris and grass weeds and usually infects roots.

Leaf spotting and stem-base infections produce spores that can be carried up by rain splash to infect emerged ears.

RISK FACTORS

- ☐ **any factor that slows germination and emergence**
- ☐ **poor seedbeds**
- ☐ **unusually high temperatures.**

CONTROL

Controlled by all currently available seed treatments.

Threshold for seed treatment

10% or more seed infection.