

Ergot



Black-grass – the main grassweed host of ergot.



Ergot in wheat ears.

Claviceps purpurea

Ergot is a very common disease of grasses and cereal crops. It is also one of only two diseases which are included in the cereal seeds regulations for the UK.

The disease has very little direct effect on yield but ergots contain large amounts of very poisonous alkaloids. Consequently, if contaminated grain is fed to stock or used to make flour then there are real risks to animal and human health.

IDENTIFICATION

The fungus only attacks the ear, replacing some grains with a hard, purple-black sclerotium – an ergot – which can be up to 2cm long. Ergots are very obvious in standing crops and infected grain.



ECONOMIC IMPORTANCE

Infection has little effect on yield, but contaminated grain lots are unsaleable or require cleaning at extra cost.

seriously affect livestock, particularly pigs. Feed contracts set limits of 0.001% by weight for grain.

No ergot is tolerated in grain for human consumption. Ergot poisoning in humans, once associated with rye bread, is now very rare.

Certified seed at HVS is permitted to contain up to 1 ergot piece/kg of seed. This is equivalent to 1 ergot piece/100m² of crop sown at 100kg/ha, and poses little threat.

Contamination can also

RISK FACTORS

- grass weeds on the farm, particularly black-grass (*Alopecurus myosuroides*)
- cool, wet conditions during flowering
- prolonged flowering periods
- late tillering (eg in tramlines or very thin crops).

LIFE CYCLE

Ergot is not truly a seed-borne disease as it is not carried on or in seed. It is however, spread by sclerotia as seed contaminants and is therefore included here.

At or near to harvest, ergots fall to the ground and remain dormant until the following summer. They germinate to produce club-shaped structures which bear spores that spread by wind to open grass and cereal flowers nearby.

Spores germinate in flowers and infect the ovaries. Spores are produced encased in a sticky secretion commonly called 'honeydew'.

Rainsplash or direct contact spreads infection over short distances. Insects can carry spores to other flowers leading to further infection.

CONTROL

Ergot cannot be controlled in the field by fungicide sprays.

Cultural control can be achieved by ploughing as ergots are not viable for more than a year and cannot germinate if buried.

A one-year break from cereals gives good control of soil-borne ergot.

Controlling grass weeds, particularly black-grass in and around crops, will prevent spread.

Some fungicide seed treatments prevent ergots germinating after sowing.