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Ergot

L. E. Dickens[1/]

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Quick Facts

Ergot is a sign of disease in small grains and grasses.
Ergot consists of hard, resistant structures of fungus origin.
Ergotism is caused by ingestion of ergot-contaminated food products or feed.
Ergot is a potential hazard but is easily prevented.

Ergot is the sclerotial stage of the fungus *Claviceps purpurea* that causes disease in grasses and small grains. This disease is a potential problem in view of its relatively recent occurrence in open-floreted, male sterile wheat lines used for developing hybrid seed. Although crop loss from the disease is important, ergotism caused by ingestion of ergot in grain products is of great significance to the health of humans and animals.

Ergot contains alkaloids, which are active chemicals that cause ergot poisoning in humans and livestock. Symptoms of ergotism may appear in animals even when the sclerotia are not observable.

Epidemics of ergot poisoning have been recorded throughout history. In France 8,000 people died from gangrenous ergotism in 1777. Cases of ergotism have occurred as recently as 1951. In modern times the hazard has been greatly reduced, since seed cleaning equipment presently in use can separate most of the ergot from the seed.

Ergot has been used beneficially in certain medicinal preparations.

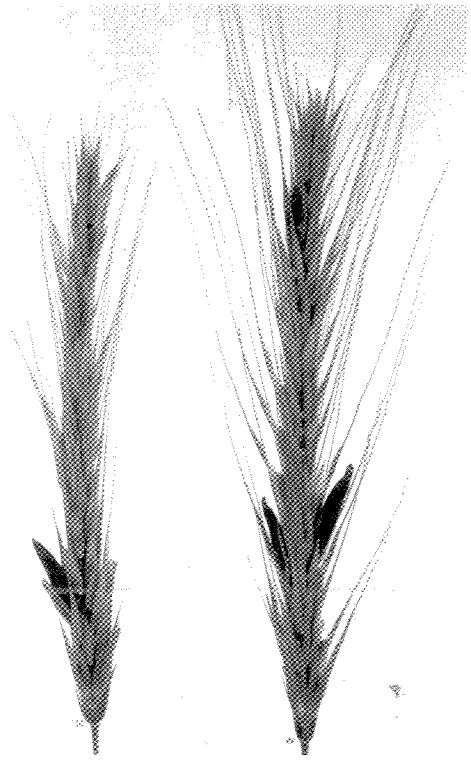
Ergot consists of dark purple to black sclerotia, which are found protruding from the heads of grasses and small grains. The sclerotia are hard-textured resistant vegetative structures of fungus origin; they are capable of overwintering and initiate the disease cycle in the spring. The fungus spores gain ingress while the florets are open.

Following the primary infection, a yellowish-white substance exudes from infected florets. This is the "honey-dew" stage for another kind of fungus spore that is spread by insects and other means in the further development of the disease. The infected ovaries of the florets are progressively replaced by sclerotia.

Ergot is conspicuous in heads of rye by rather large ergot bodies, whereas they are somewhat smaller in wheat and timothy.

The primary means of preventing ergot poisoning is complete removal of ergot sclerotia from grain that is used for food, feed or seed. Modern seed cleaning equipment will remove most of the sclerotia from seed.

Crop rotation with summerfallow or a sequence with a non-grain crop usually is sufficient, since the sclerotia usually are not viable for more than one year in the soil. *Deep plowing* will bury the sclerotia, rendering them ineffective. Only clean, healthy seed should be used for planting. Wild grasses should be mowed before they flower to help in prevention of ergot.



Large ergot sclerotia in heads of rye.

[1/] *L. E. Dickens, CSU extension professor, plant pathology (5/1/79)*