

Corn Smut

(*Ustilago maydis*)

The genus *Ustilago* incorporates all the smut fungi, which are a group of molds that are plant pathogens. The different species of *Ustilago* are identified specifically by the type of plant they most like to infect – in this case, *Ustilago maydis* targets corn, thus its common name Corn Smut. Other smuts are found on Bermuda grass, Johnson grass, Oat, Wheat and Barley. The smut can, however, infect other flowering plants as well, so smuts are very common in the environment.

Corn Smut originated in Mexico, but now is found worldwide anywhere corn can be grown. It infects the above-ground portions of the plant, and can have a significant impact on the yield of a crop. Interestingly, in Mexico the large growth of the smut, called a “gall”, is seen as a delicacy when prepared properly, and many farmers treasure the infected corn more than the crop itself!

Corn Smut has been documented as a cause of Type I allergy – the fungus produces huge numbers of spores that readily become airborne. Smuts, like other outdoor molds, are found in their highest concentrations on sunny, dry and windy days. Their counts are reduced by precipitation. Counts of up to 6,000 spores per cubic meter of air have been reported, although usually counts remained below 1,000. Most *Ustilago* spores are very small, less than 10 microns (Ragweed pollen is approximately 20 microns). One gall of Corn Smut slightly larger than a golf ball may contain over a billion spores.

Different members of the genus *Ustilago* can be found at different times of the year. Cross-reactivity between these different smuts is expected to be very high. One US study of 100 asthma or allergy patients found 50% reacted positively to a skin test with Corn Smut.

