



Smut diseases of turfgrass are caused by several closely related and highly specialized pathogenic fungi. Smut diseases tend to occur on higher cut turf, including residential turf, athletic fields, and golf course roughs. Outbreaks occur most often and most severely on older varieties of Kentucky bluegrass. Smut pathogens may infect creeping bentgrass, perennial ryegrass, and tall fescue, but disease incidence in these species is very rare. Fungal infection and colonization weaken plants, making them more prone to death during extended periods of hot, dry weather. Infected plants produce vast amounts of sooty spores that discolor maintenance equipment. Smut-infected turf usually becomes apparent three or four years after initial infections occur. The affected areas are not well defined initially. Stripe smut-infected plants appear light green to yellow-green and soon develop light green to gray streaks on leaves and sheaths. As the fungus develops, the epidermis over these streaks ruptures, releasing a mass of black smut spores. The leaves then split and curl and eventually die. Field patterns are initially subtle, appearing chlorotic during spring, but taking on a brown color in summer. Wind and splashing water disperse smut spores, but they do not infect turf directly. Instead, the spores represent the survival stage of the pathogen. The survival spores (called teliospores) germinate when turf is wet and temperatures range between 50° and 60°F, often in spring, but sometimes in fall. Germinating teliospores give rise to fragile basidiospores, which infect turf only when two different mating types are present. The highly specialized circumstances under which infection occurs explains why smut diseases are not very common. Smut pathogens infect the meristematic tissues (growing points) in turf plants, so infections will remain with plants as long as they are alive. Infected plants are relatively weak and are among the first to succumb to summer heat and drought

