



BROWN STRIPE OR LEAF STREAK OF FORAGE GRASSES

Brown stripe or leaf streak—also called brown leaf blight and *Scolecotrichum* brown stripe—is caused by the fungus *Scolecotrichum graminis*. The disease occurs generally and severely in Illinois on timothy, orchardgrass, bluegrasses, tall oatgrass, and redbtop. It is occasionally serious on tall fescue, meadow fescue, and brome-grasses. Altogether the *Scolecotrichum* fungus attacks over 140 grasses. It is not important on cereals.

Brown stripe occurs throughout the growing season but is most destructive on older plants from spring to autumn, when leaves and stems (culms) are nearing maturity. Early and severe attacks on very susceptible plants cause the leaves and leaf sheaths to wither from the tip downward, die and fall off, greatly reducing the quantity and quality of forage. Early maturity of timothy and other highly susceptible grasses is often forced by premature loss of leaves killed by brown stripe. *Scolecotrichum* is only mildly pathogenic on some grass hosts and is sometimes secondary to other fungi and to bacteria.

SYMPTOMS

The lesions on the leaf blades are first small, round to oval or elongated, and water-soaked. They soon become olive gray when wet and when dry fade to a deep, dull gray to purplish brown. Later they extend for several inches along the leaf, becoming mostly brown, usually with a grayish white to light brown center (Figure 1). The shape, color and length of the streaks depend on the stage of growth and species of grass that is affected. The streaks occur singly or may merge and extend into the leaf sheath. Parallel rows of prominent, olive gray to black dots on the upper leaf surface, visible to the eye, develop along the lighter centers of older streaks. The arrangement of the dots readily distinguishes *Scolecotrichum* from the attacks of other leaf-blighting fungi. Each dot is a dense cluster of spore-bearing structures (conidiophores).

DISEASE CYCLE

The *Scolecotrichum* fungus overwinters as masses of mycelium (stromata) in living grass leaves and crop debris from the past growing season. During spring rains the stromata swell and rupture the epidermal cells on the upper surface of affected leaves. Clusters of conidiophores emerge through the ruptured epidermis (or stomates) and produce spores (conidia) that are disseminated primarily by splashing and

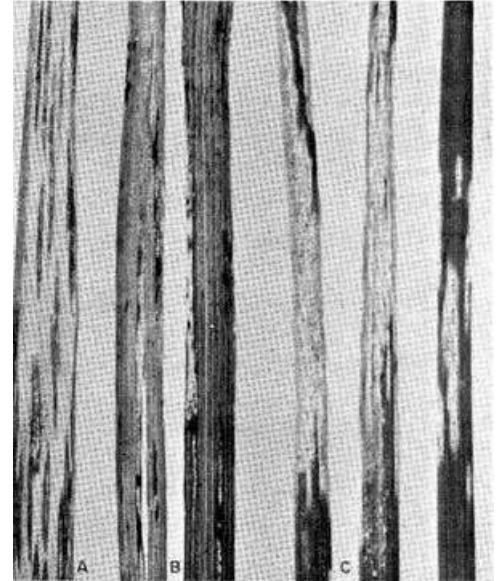


Figure 1. Brown stripe or leaf streak on timothy (A), orchardgrass (B), and meadow fescue (C) (courtesy Department of Plant Pathology, University of Wisconsin).

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wind-blown rain. During warm dry weather in summer sporulation ceases, causing the incidence and severity of brown stripe to decrease. Cooler wet weather in spring and autumn provides optimum conditions for disease development.

CONTROL

1. Sow only disease-free seed of improved, well-adapted grass varieties recommended by University of Illinois agronomists and your nearest Extension adviser. Plant certified seed whenever available.
2. Careful, controlled burning of dead grass in early spring may be warranted if pastures are severely affected. This old practice destroys organic matter, but kills leaf-blighting fungi and bacteria in the overwintering leaves and other crop refuse.
3. Rotate at least two years with non-grass crops where practical. Rotation helps to prevent disease buildups.
4. Keep down weed grasses by cultural or chemical means.
5. Avoid the following:
 - a. Excessive rates of fertilizers high in quickly available nitrogen. Maintain adequate soil fertility, especially of potassium and phosphorus, based on a soil test.
 - b. Pure dense stands of a single grass variety. Where practical, seed a mixture of forages.
 - c. Close grazing and clipping. Follow recommended mowing and grazing practices.
 - d. Leaving a heavy mat of hay on the grass during damp weather.
6. Where feasible, plow under cover crops and plant debris cleanly.