Melting-out of Kentucky bluegrass is caused by the fungus *Helminthosporium vagans*. The disease is known to occur on tall fescue and certain grass species of weeds. It is an important problem, however, only on the bluegrasses.

**SYMPTOMS.**—The disease occurs on all plant parts. On the leaves, it first appears as small, water-soaked spots. These soon enlarge into dark, purplish-red areas 1/4 inch to 3/8 inch long and 1/16 inch to 1/8 inch wide—the width being limited largely by leaf size. As the infected areas enlarge, the color of the centers changes to brown and finally to a dull white (see photograph).

Although any area of the leaf may be attacked, infection is usually more severe on the sheath. Lesions on the leaf sheath are more irregular in outline than those on the leaf blades and the lighter colored center is usually missing. Infection of the sheath is often so severe that the leaf is girdled and drops from the plant. It is the leaf girdling and killing phase of the disease that is responsible for the name "melting-out." During an epidemic, in overall view, bluegrass stands take on a thinned-out appearance. At these times, there may be less than 6 leaves remaining per square foot of turf.

Occurring along with leaf infection is an invasion of the crowns, the roots, and rhizomes. The disease in these tissues is a rot, appearing at first as a reddish-brown decay and finally turning dark brown to black as bacteria and other organisms begin to attack the tissues. Such plants often wilt under soil moisture conditions that would normally seem adequate for growth.

**DISEASE CYCLE.**—The causal organism survives the winter months in diseased Kentucky bluegrass crowns, roots, and rhizomes and in debris from infected leaves. In the spring, spores are produced which are carried up onto leaves by splashing water. These spores germinate and infect the leaves. From these infected areas, new spores are produced which are, in turn, spread to new leaf parts and neighboring plants. Old leaves are more susceptible than young ones.

With the arrival of the warm, relatively dry summer months, the fungus is restricted primarily to the crowns and roots of diseased plants. However, if cool, wet weather returns, the disease can break out on leaves again (see diagram).

**CONTROL.**—**Resistant Varieties**—The Merion variety of Kentucky bluegrass is highly resistant to both the leaf spot and crown and root rot phases of melting-out.
Crows and roots of newly diseased plants invaded by pathogen

SUMMER

Crowns and roots of newly diseased plants invaded by pathogen

New leaves infected, diseased leaves drop from plants

SPRING

Spores splashed onto leaves and infect them

SPRING

Spores splashed onto leaves and infect them

FALL

Pathogen survives in bluegrass debris and infected crowns, roots, and rhizomes

WINTER

Pathogen survives in bluegrass debris and infected crowns, roots, and rhizomes

Cycle of Development of Melting-out of Kentucky Bluegrass

Chemical Control - Melting-out may be controlled by the use of certain fungicides. For specific control recommendations, see Control Series 76.

KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.

2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.

3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.