

ronmental conditions (warm, moist weather) exist. Spores are blown from Fusaria living on plant debris in the soil and other weed host plants to wheat spikelets. Under warm, moist conditions spores land on spikelets, germinate, and invade glumes, floral parts, and other susceptible plant parts. Most scab infection occurs during flowering or shortly after the flowering period.

Control. Wheat scab or head blight is best controlled by using the following strategies:

- Fungicide seed treatment is somewhat effective. It can reduce carry over of scab fungi on the seed's surface, but it will not stop carry over of scab within the seed.

- A 1-year rotation with a nonsusceptible host between wheat crops will reduce scab inoculum in the field. Do not rotate corn or grain sorghum with wheat since they are also hosts to scab.

- Avoid minimum tillage where scab is a problem. Plant debris left on the surface of the soil serves as an excellent substrate for Fusarium to reproduce and increase its inoculum.

- After harvest, plow under and bury wheat stubble and other debris left on the soil's surface.

- Timely foliar applications of fungicides have been ineffective. Although propiconazole (Tilt) and benomyl have partially controlled scab, it is questionable whether they are cost effective.



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Use chemicals **only** according to the directions on the label. Follow all directions, precautions, and restrictions that are listed.

The pesticide rates in this publication are recommended only if they are registered with the Environmental Protection Agency and the Alabama Department of Agriculture and Industries. If a registration is changed or canceled, the rate listed here is no longer recommended. Before you apply any pesticide, check with your county Extension agent for the latest information.

Trade names are used only to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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Plant Disease Notes **Wheat Scab Or Head Blight**

Wheat scab or head blight is one of the more damaging diseases of wheat in the United States. Nationwide, this disease has caused the wheat industry millions of dollars in yield losses. In the Midwest and High Plains, scab is the major obstacle to wheat production in recent years. Fortunately, scab has not been a major problem for wheat growers in Alabama. Scab can be an occasional problem in the more humid wheat growing areas of the Gulf Coast. Scab in addition to attacking wheat also attacks and reproduces on barley, oats, and corn.

Head blight or wheat scab is caused by several Fusarium species. These fungi survive on plant debris. They invade and damage the spikelets of the grain head during flowering, thus preventing or partially impeding the development of grain in the grain head. The invading scab fungi can either kill part of the grain head or the entire grain head. Some infected seeds, that are not killed by the scab fungus, are low in vigor and often fail to germinate. Infected seed that germinate often die early in the seedling stage due to Fusarium crown rot or root rot, causing poor stands in the following crop. In addition to poor, unthrifty stand, yield losses can be quite high if conditions are favorable for development of the disease.

Scab infected grain also produces a toxin that is reported to be harmful to nonruminant animals.

Barley infected with scab cannot be used for making beer because it causes excessive foaming.

Symptoms. In the field, wheat with bleached or partially bleached spikes is the most easily recognized symptom of scab. Symptoms usually first appear during or shortly after flowering. A few or all of the spikelets on the spike may be bleached. If the rachis is infected, the spike above the point of infection will bleach out. Frequently, the entire head is bleached and devoid of grain. During wet, humid conditions, a light pink or white growth (fungal mats) may be seen on the glumes of infected grain. Later, tiny fruiting bodies resembling pepper grains will appear on the surface of the grain. Infected grain is underweight and shriveled. Infected seed either fail to germinate or produce weakened seedlings that usually die soon after they emerge from the soil.

Persistence And Spread.

Fusarium species that cause wheat scab or head blight survive and reproduce on volunteer wheat, grass hosts, or on plant debris and other organic matter in the soil. These species are present in most fields and can spread to and infect wheat when favorable envi-

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