Scab of Flowering Crabapples

P. C. Pecknold
SCAB OF FLOWERING CRABAPPLES

P. C. Pecknold, Extension Plant Pathologist

Flowering crabapples add color and beauty to many home landscapes. The delightful flowers of spring and colorful fruit of summer provide pleasure for all to see and enjoy. However, each year, numerous flowering crabapples become diseased, resulting in heavy defoliation by mid- or late summer. This malady is a disease known as apple scab. Through the use of resistant varieties, cultural control, and/or chemical control, apple scab can be prevented from occurring; insuring a healthy, vigorous tree throughout the year.

Symptoms

Leaves: The symptoms of apple scab will first appear on young leaves in early spring. Spores of the fungus infect leaves, causing scab lesions or spots. The scab lesions are often roughly circular in shape, or radiate outward from and along leaf veins. The size may be no larger than a pin head or 1/2 inch in diameter. The lesions will initially have a light olive-green appearance but will eventually turn quite dark, with a velvety appearance. The margins of the spots are not sharply defined, rather they have a fuzzy or feathery appearance and radiate outward into healthy leaf tissue. The lesions first appear on the underside of the leaves; later they may occur on both surfaces, often being in close proximity to the leaf veins. Leaves severely infected will eventually yellow and fall prematurely.

Fruit: As the name apple scab implies, fruit lesions are scabby in appearance. The
lesions become dark colored and resemble those on the leaves. Often they have cracks running through or from them. Severely infected fruit is often deformed and small.

Cause

Apple scab is caused by the fungus Venturia inaequalis. This fungus is widespread throughout Indiana and surrounding states. It infects commercially grown apples (see BP-3-2) as well as crabapples. Water is required for leaf infection to occur. For this reason apple scab is most severe in those years when heavy rainfall occurs in spring. If dry weather prevails throughout spring and early summer, there is little scab.

The fungus lives through the winter in diseased leaf debris lying on the ground. In early spring millions of tiny spores are produced within the leaf debris. These spores are shot into the air when leaves become wet, carried aloft by wind to newly developing apple leaves, and penetrate the leaf cuticle resulting in infection. Once infection has occurred a different kind of spore is produced; these "secondary" or "summer" spores are capable of causing further infections throughout summer and early fall. This cycle repeats itself every year.

Control

1. Use of Resistant Varieties: The best and easiest way to control apple scab is to purchase those varieties of crabapple which are resistant. This will eliminate the need for cultural or chemical control. Refer to BP-2-17, Disease Resistant Crabapples, for a complete listing of disease-resistant crabapples.

2. Cultural Control: As noted, the apple scab fungus lives throughout the winter within diseased apple leaves lying on the ground. It is therefore helpful to rake and destroy all fallen leaves. A thorough clean-up of leaves should be made in the fall before leaves become brittle and break into tiny fragments which are difficult, if not impossible, to rake. It is also helpful to suggest to neighbors that they dispose of their fallen crabapple or apple leaves; fences do not stop apple scab spores from being blown into your yard and tree.

3. Chemical Control: Fungicides, if applied at the proper time, in the proper amount and in the proper way, will prevent apple scab infection. Rainy weather in early spring is the most critical time in which fungicidal sprays should be applied. Apply the first spray when green tissue first appears from the opening leaf and flower buds. Continue to spray on a 7 to 14-day schedule (7 days if there is a lot of rain, 14 days if little rain) until dry weather prevails. Timely fungicide applications during April, May and June will greatly lessen the degree of apple scab infection. Further sprays are required in mid- to late summer if rainy weather occurs. Fungicides effective in controlling apple scab are: benomyl (sold as Benlate 50WP, etc.); captan (sold as Orthocide 50W, Captan 50W, etc.); mancozeb (sold as Dithane M-45, Fore, Manzate 200, etc.) or general purpose garden sprays which contain any one of the above mentioned fungicides. REMEMBER--When using pesticides, read the container label and use strictly according to label directions.