

Apple scab, caused by the fungus *Venturia inaequalis*, is the most important disease of apple and crab apple in Illinois. Closely related fungi cause scab to appear on pear, hawthorn, firethorn, loquat, mountain-ash, Christmasberry and quince.

Apple scab can be found in all home and commercial orchards in Illinois. Without endangering the life of the apple or crab apple host, scab can cause severe loss of fruit by lowering yield and quality. It may also cause severe defoliation, greatly weakening the tree. While a good spray program gives almost complete control, improper spraying may have little or no effect on the problem. Once apple scab begins, it's hard to stop.

Apple scab infections usually appear on the undersides of the flower bud leaves as light brown to dark olive-green, irregularly shaped lesions. The leaves are infected first because they are exposed as the buds begin opening. As the infection progresses, the lesions become more regular and defined, taking on a velvety, olive-green appearance. Finally the spots turn dark brown to black. The tissue around the "scab" thickens, causing the upper surface of the lesion to be convex and the corresponding lower surface to be concave. If infection is severe, leaves are dwarfed, curled, and scorched at the margins followed by early defoliation.

Fruit infections appear later as nearly circular, velvety, dark olive-green lesions with the cuticle ruptured at the margins. Older lesions are black, scabby, and often cracked. Heavily infected fruit commonly become knotty, deformed, and russeted, and drop prematurely.

The fruit stem is also infected by the apple scab fungus in this area of the country causing early leaf or fruit drop.

The scab fungus overwinters in infected leaves, which fall from late spring to early autumn. Moisture is the key to apple scab infection.

Apple scab is primarily controlled by thorough applications of fungicide sprayed at 7- to 10-day intervals. The first application should be applied when the new leaves first appear and continued until you are sure you have scab under control. Other diseases such as cedar-apple rust and apple blotch are also appearing about this time and can be controlled by the same spray. Normally it is not necessary to spray after July 1 to control scab. It is important to cover the developing buds, leaves, and fruit with each spray. Apply the recommended fungicides on a calm day when the temperature is over 40F.

RECOMMENDED FUNGICIDES:

A. Captan 50% WP (1/4 cup to 5 gallons of water, 1 pound to 100 gallons) or Dodine (cyprex) 65 WP (1/2 level tablespoon to 5 gallons, 1/4 pound to 100 gallons) plus zineb 75% WP (1/4 cup to 5 gallons, 1 pound to 100 gallons) or ferbam 76% WP (1/2 cup to 5 gallons, 1 pound to 100 gallons)

B. Dikar (1/2 cup to 5 gallons of water, 2 pounds to 100 gallons)

You can combine any of these fungicides with the proper insecticides or miticides when necessary. Proper tree spacing, annual open pruning of trees, and adequate equipment will help give effective spray coverage. Collecting and burning fallen leaves in autumn is of some value in controlling scab in the home orchard.

Stanley Rachesky
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