

FUNGUS DISEASES OF THE APPLE.

I. ATTACKING THE FRUIT AND LEAVES.

1. THE APPLE SCAB (*Fusicladium dendriticum*, *Venturia pomi*).

This fungus first appears on the leaves in smoky greenish patches, upon which sooty pear-shaped summer spores are produced. Later it appears on the fruit, where it develops under the cuticle or outer layer of the skin, and forms dark brown, or blackish spots. It appears to thrive best in cool, moist weather, and on closely crowded trees. The scab passes the winter on infected fallen leaves, as black bodies imbedded in the leaf tissues.

Treatment. Plow under the dead leaves; spray with copper sulphate before the buds open, with Bordeaux soon after the leaves unfold and every two weeks thereafter until the danger is over; and prune so as to prevent overcrowding and shading.

2. THE RIPE OR BITTER ROT (*Glæosporium fructigenum*, *Glomerella rufomaculans*). This disease is very prevalent in Illinois and other Central States. Brown spots appear on the half-grown apple, these gradually enlarge and run together forming irregular patches. Black points often arranged in concentric circles form on the diseased areas. Spores ooze from the black points, and are carried to other apples by wind and rain. The fungus winters over in another form in diseased apples, but a stage of the fungus winters over on cankered limbs, which are the main sources of infection.

Treatments. Thorough spraying with Bordeaux; the destruction of old diseased fruit; the removal and burning of cankered limbs.

3. THE BLACK ROT (*Sphæropsis malorum*). This fungus produces a characteristic disease. The early mature apples when affected first, become brown, with black discolored spots under the skin, later become black, and finally shrivelled, shrunken and wrinkled. The spores are formed in the small pustules readily seen in the dried up fruit and in the leaves. Paddock of Geneva has shown that this same fungus often produces cankers on the branches, which have open wounds made by sunscald, etc.

Treatment. Spray with Bordeaux four or five times during the season at regular intervals, burn or plow under the diseased fruit and leaves, scrape and coat with tar or paint the cankers on the larger limbs and cut off and burn those on the smaller.

4. SOOTY OR FLY-SPECK FUNGUS (*Leptothyrium pomi*). This fungus injures mature apples under moist conditions, either in low moist ground or during a wet season. The popular names applied to this disease indicate quite accurately the character of the spotting of the fruit. Such varieties as Spy, Baldwin, and Greening are most susceptible to attack.

Treatment. Spray at regular intervals with Bordeaux, and select a high sunny position for orchard.