

downy mildew. Both are prevalent during warm, humid weather, but the former can also develop under relatively dry conditions.

Powdery mildew (*Erysiphe cichoracearum*): Appears as white powdery spots on the shaded portions of the main stems and on the under surfaces of the older leaves. Later the spots may cover the whole leaf surface. Once established the disease will spread rapidly throughout the crop.

Downy mildew (*Pseudoperonospora cubensis*): Appears as more or less angular, yellowish spots on the leaves, and on the lower surface of these a rather scanty, white, downy growth develops. The individual spots are rarely over $\frac{1}{2}$ in. in diameter, but may coalesce, resulting in the death of the whole leaf.

Bordeaux mixture 3:4:50 (3lb. of copper sulphate and 4lb. of hydrated lime to 50 gallons of water) is effective for the control of both downy and powdery mildew. Applications should be made every 7 to 14 days according to weather and the severity of the diseases.

Powdery mildew is the more common of the two and may be controlled by using "Karathane", which leaves practically no residue on the fruits. "Karathane" may be used as a dusting powder or, as a spray, the wettable powder form may be used at 1lb. to 2lb. to 100 gallons of water. Applications should be at 7- to 14-day intervals until the mildew is controlled.

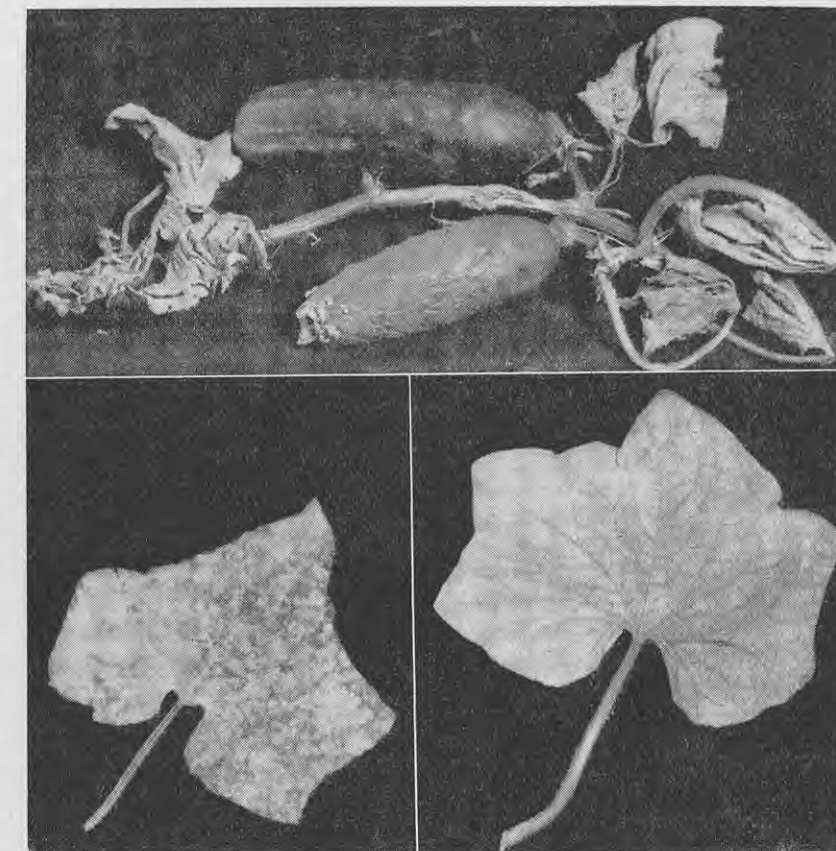
Grey mould (*Botrytis cinerea*) produces a dense, grey, velvety, fungous growth on the stems and tips of the young fruits and may cause severe damage under very humid conditions.

Control: It can be prevented by attention to ventilation and plant hygiene. If infection occurs, however, spraying the plants with 4lb. of thiram (50 per cent. wettable powder) in 100 gallons of water will keep the disease in check.

Sclerotinia disease (*Sclerotinia sclerotiorum*): Affected areas on stems become bleached in appearance and infection is followed by wilting of the foliage. If the infected portion of the stem is cut open, hard, black, irregular-shaped bodies will be found lining the hollow portion.

Control: Infected plants should be removed and burnt and the soil sterilised before it is used again for a cucumber crop.

Verticillium wilt (*Verticillium albo-atrum*): Leaves become yellow from the base of the plant upward and the whole plant wilts. If the stem is cut open longitudinally, the wood is seen to be discoloured brown. Mainly



Upper—Sclerotinia disease. Lower left—Powdery mildew. Lower right—Leaf infested with red spider mite.

occurs in spring when temperatures are low.

Control: Infected plants should be removed and burnt. Sterilise soil indoors before next crop.

Fusarium wilt: Symptoms are similar to verticillium wilt, but disease is mainly troublesome when temperatures are high.

Control: Infected plants should be removed together with the soil round the roots. The holes may then be filled with a solution containing 1oz. of copper sulphate in 2 gallons of water and replanted. Diseased plants should be burnt and soil indoors sterilised before the next crop.

Anthraxnose (*Colletotrichum lagenarium*) sometimes causes damping off of cucumber seedlings, but does not usually appear on the plants until they are well established. Pale-green, water-soaked spots form on the leaves. These enlarge rapidly and become reddish brown in the centre, surrounded by a yellowish water-soaked zone. Finally these blotches run together and the leaf dries up and appears scorched.

Sunken, elongated, water-soaked areas also appear on the leaf stalks

and stem and may girdle the latter, causing the plant to wilt. Similar pale-green sunken areas are produced near the tips of the fruits; they finally crack and expose the internal tissues, and the fruit becomes yellow and dies off.

Control: Adequate ventilation should be given indoor crops and the plants sprayed each week during the early stages of attack with bordeaux mixture 3:4:50.

For field culture, crop rotation and spraying the plants with bordeaux mixture during the growing period are recommended and if infection is severe, the removal and burning of all plants at the end of the season is necessary.

Red spider mite (*Tetranychus bimaculatus*): A mite which can scarcely be seen without a lens. In heavy infestations the leaves turn yellow and later die. The tiny yellow to red insects feed on the under sides of the leaves.

Control: Spray with HETP or TEPP as for aphids.

All photographs by Sparrow.