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EC69-1848 Cucurbit Diseases : an Aid to Identification and Control

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CUCURBIT DISEASES
An Aid to Identification and Control

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1. **POWDERY MILDEW:** *Erysiphe cichoracearum*. Rarely seen in Nebraska on cantaloupe, occurs more commonly on cucumbers and watermelon. Heavy dews favor penetration of the fungus in early spring planting. Foliar symptoms consist of tiny, white, superficial spots which become powdery as they enlarge. The chief damage is in reduced quality of the fruit. Apply Karathane, fixed copper or sulfur dust when necessary.

2. **SCAB:** *Cladosporium cucumerinum*. In addition to squash, the fungus can attack cucumbers, muskmelons and watermelons. It is an important transit and storage decay. The disease appears on leaves in midsummer as small, circular to angular spots similar to those caused by angular leaf spot (see Fig. 9). On the fruit, water-soaked spots enlarge and the surface tissue collapses. These become sunken, corky, dark-colored cavities. Applications at 7-14 day intervals of captan, zineb, maneb, or thiram successfully prevent disease build-up.

3. **ANTHRACNOSE:** *Collectotrichum lagenarium*. The fungus can also attack cucumber (see Fig. 8), cantaloupe, and muskmelon. The disease is common in some seasons in Nebraska. On watermelon leaves, the spots are circular to oblong, and black. Depressed spots occur on young fruit which result in abortion or malformation. Captan, zineb, or maneb will provide satisfactory control where a periodic spray schedule is followed.

4. **ALTERNARIA BLIGHT:** *Alternaria cucumerina*. The disease, although not seen every year, can be severe in some seasons. Small, tan spots on the leaves enlarge to roughly circular areas, often coalescing to involve most of the leaf. The spots become dark with age, showing concentric ridges which give a target-board appearance. Partial defoliation exposes the fruits to sunscald injury. When necessary, several applications of zineb and maneb will depress disease development.

5. **DOWNY MILDEW:** *Pseudoperonospora cubensis*. Rarely occurs in Nebraska. Irregular to angular, yellow to brownish areas on the upper surface of leaves. When humidity is high a purplish mildew appears on the lower side. The spots enlarge rapidly causing the leaves to wither and die. Maneb, zineb, or Polyram applications at 7-10 day intervals are useful in arresting disease development.

6. **GUMMY STEM BLIGHT:** *Mycosphaerella melonis*. A common disease in tropical regions but could possibly occur in Nebraska also. Small to large, gray or brown spots occur on the leaves. Oily green

spots on the stem develop into cankers. A gummy exudate commonly exudes from stem and fruit lesions. Control consists of resistant varieties, seed treatment, and crop rotation. Zineb, maneb, or captan will reduce the spread on foliage but is of little value in reducing stem cankers.

7. **FUSARIUM WILT:** *Fusarium oxysporium f. niveum*. Occurs wherever watermelons are grown. Plants may become infected in all stages of growth. Germinating seeds may rot in the soil, or young seedlings may lose their green color, droop, and wither. In older plants the leaves suddenly wilt and the runners die. Yellow to dark brown streaks can be seen when stems are split. Treated seed, strict sanitation, and use of resistant varieties are recommended.

8. **ANTHRACNOSE:** *Collectotrichum lagenarium*. The fungus also causes anthracnose on watermelon, (see Fig. 3), cantaloupe, and muskmelon. When humid, rainy weather occurs frequently during the growing season, this disease becomes widespread and serious. On cucumber leaves the spots commonly start on a vein and expand into brown, angular or circular areas about 1/2 inch in diameter. The spots may dry out and tear, and the leaves become distorted. Older fruits have round, sunken spots which are water-soaked at first and later turn dark green to black. Use of treated seed, crop rotation, periodic applications of fungicides, and resistant varieties provide excellent control of this disease.

9. **ANGULAR LEAF SPOT:** *Pseudomonas lachrymans*. This disease occurs in most cucumber regions. The bacterium is seed-borne and persists on infected crop refuse. It is spread chiefly by rain and enters through natural openings in the leaves. Developing leaf spots appear first as tiny water-soaked spots, later becoming tan and gummy or shiny. The angular shape of the lesion is due to the delimitation by veins. Neurotic centers of leaf spots may drop out. Stems, petioles and maturing fruits are also subject to attack. Use of seed grown in arid regions, seed treatment, and crop rotation are essential in areas where the disease is severe.

10. **BELLY ROT:** Several fungi and bacteria can cause tissue collapse of maturing fruit. Rot usually starts where fruit rests on damp soil. Rotted area may be covered with white, black, green, blue or pink mold. Where practical in the garden, rest fruit on dry surface (e.g., a dry mulch). Plant in well-drained soil.

CUCURBIT DISEASES

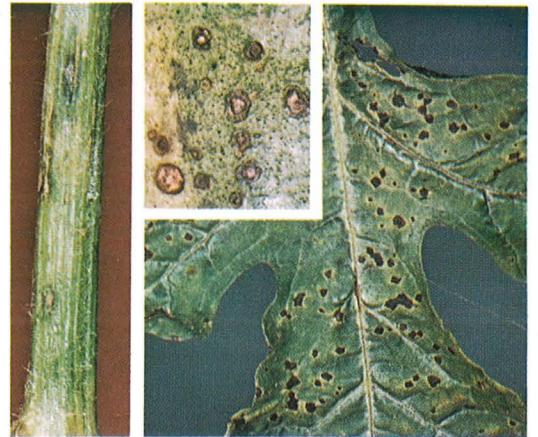
An Aid to Identification and Control



1. POWDERY MILDEW OF CANTALOUPE



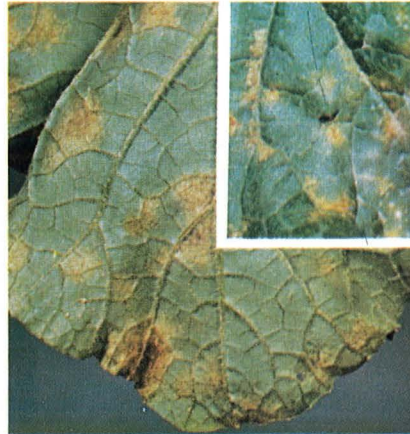
2. SCAB OF SQUASH



3. ANTHRACNOSE OF WATERMELON
Insets show stem and melon damage



4. ALTERNARIA BLIGHT OF CANTALOUPE
Inset shows closeup of leaf spot



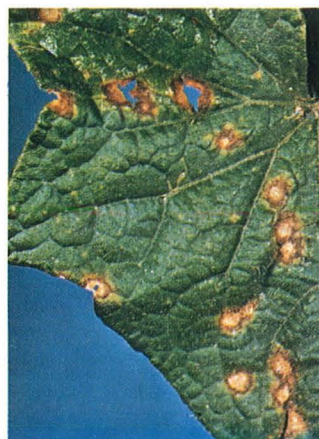
5. DOWNY MILDEW OF CANTALOUPE
Inset shows upper leaf surface



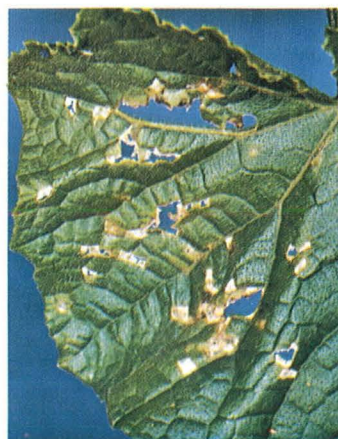
6. GUMMY STEM BLIGHT ON LEAF AND STEM



7. FUSARIUM WILT OF WATERMELON STEM



8. ANTHRACNOSE OF CUCUMBER



9. ANGULAR LEAF SPOT OF CUCUMBER



10. BELLY ROT OF CUCUMBER