

Diagnosing Vegetable Problems

by

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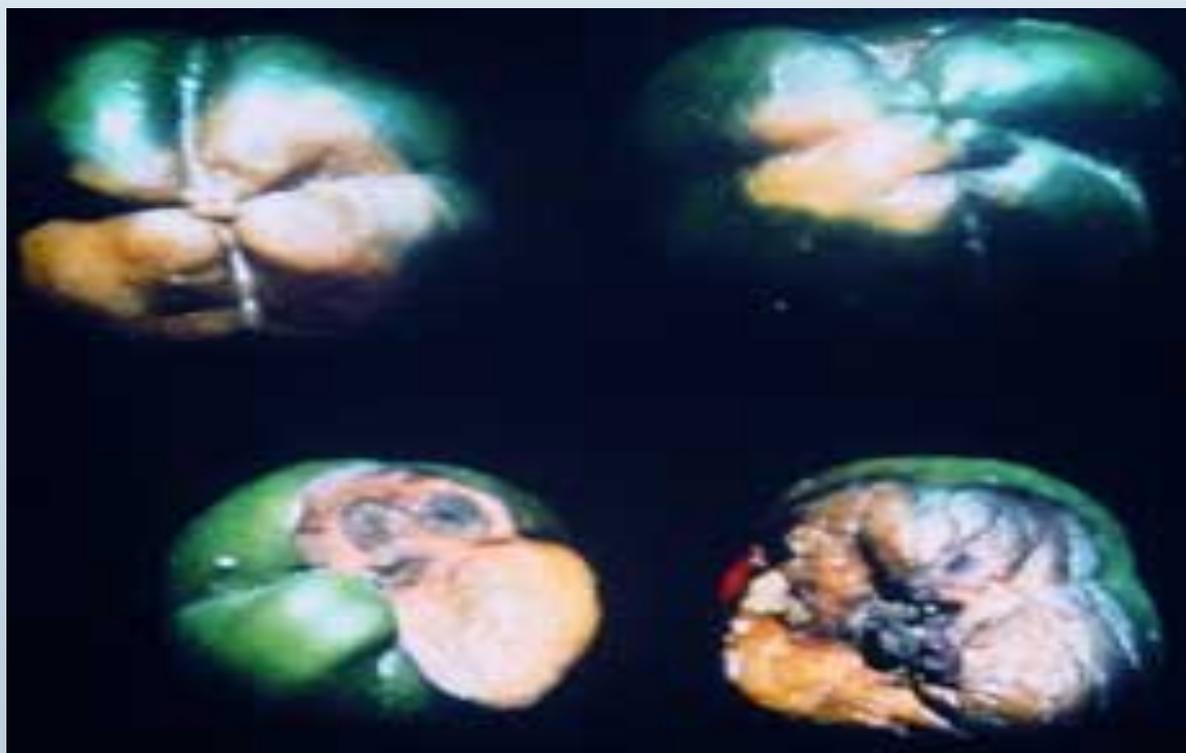
Cucurbits (squash, melons, cukes)

- **Problem: Flowers drop off without forming fruit or young fruit shrivel from tip back.**
- **Cause: Poor pollination**
 - There are more male than female flowers and the ratio can be 15-18 males to 1 female flower.
 - What interferes with pollination?
 - Not enough bee activity, 8-20 bee visits per flower needed for good pollination.
 - Irrigating during the daytime stops bees.
 - High heat stops bees.

Tomatoes, Peppers, Eggplant, Beans, Cucurbits

- **Problem: Blossom drop**
- **Causes:**
 - Strong winds
 - High temperatures
 - Cool weather
 - Lack of pollination
 - Moisture stress
 - High nitrogen rates
 - Excess soil moisture





Tomatoes & Peppers

- **Problem: Blossom End Rot**
- **Description:** Light tan water-soaked lesions on the blossom end of the fruit, lesions enlarge and turn black and leathery.
- **Causes:**
 - Fluctuating soil moisture supply during the dry periods.
 - Low calcium levels in the fruit (not the soil).



Tomatoes & Peppers

- **Problem: Sunburn or sunscald**
- **Description:** Affected areas of fruit are soft and discolored (light-green on immature fruits or red on mature fruits) These areas later become dry and sunken.
- **Cause:** Sudden exposure to intense sunlight.
- **Control:**
 - Control defoliating pests.
 - Do not prune plants.



Tomato

- **Problem: Fruit cracking**
- **Description:** Radial cracks in skin starting at the stem end
- **Causes:**
 - Related to variety
 - Excess moisture after drought stress
- **Control:**
 - Resistant varieties
 - Even supply of moisture
 - Maintain a high fruit load, avoid excessive pruning of branches



Tomato

- **Problem: Catfacing**
- **Description:** Misshapen fruit with scars and holes on blossom end.
- **Causes:**
 - Varietal – tendency very large fruited varieties
 - Cold weather with night temperatures 58⁰ F or lower at flowering time
 - High nitrogen level
 - Herbicide injury, tomato varieties with very large fruits are more susceptible
- **Control:**
 - Don't plant too early
 - Resistant varieties
 - Avoid 2,4 D injury



Corn

- **Problem: Corn Smut**
- **Description:** Fungus infected kernels swell, swollen kernels eventually rupture releasing black sooty spores. Spores over-winter on the soil.
- **Control:**
 - Remove before galls rupture
 - Use resistant varieties
 - Remove plant debris from the garden. Destroy or discard (do not compost) diseased materials
 - Rotate crops



Squash

- **Problem: Squash bug**
- **Description:** Adults and nymphs feed on the leaves, causing small yellow specks which later turn brown. Squash bugs inject a toxin into vines which causes a wilt from the point of attack to the end of the vine. Affected runners wilt and turn black and crisp. Small plants may be killed, while larger plants may lose several runners. Squash bugs may also attack young fruit.
- **Control:**
 - Clean up debris in the fall to remove overwintering squash bugs
 - Hand-pick and destroy eggs, nymphs, and adults
 - Apply pesticide around base of plant when bugs first appear as indicated by Hortsense



Corn

- **Problem: Corn Earworm**
- **Description:** Caterpillars up to 1-1/2" long at maturity. Color varies, but typically with darker stripes along a cream-colored to greenish body. Feed in the ear damaging kernels and leaving behind droppings.
- **Control:**
 - Early-season plantings less likely to be damaged.
 - After the first silks are seen, place a clothespin at the point where the silk enters the ear.
 - Plow or dig up corn plots in the fall to kill overwintering pupae and prevent emergence of adults in the spring.
 - Plant varieties with tight husks, such as 'Country Gentleman', 'Golden Security', 'Silvergent', and 'Staygold'
 - Pesticide when silks first appear as indicated by Hortsense.



Tomato (bean, squash, beet, spinach, cucumber, pepper)

- **Problem: Curly Top Virus**
- **Description:** Puckering and upward rolling and twisting of leaves, followed by a general yellowing of the plant. Young plants may be killed. Older plants are yellowed and dwarfed, with stunted growing tips. Leaves are thickened and brittle or leathery in texture. Leaf veins may be purplish.
- **Control:**
 - Do not plant tomatoes near spinach or beets, which can serve as hosts for both leafhoppers and the virus. Control weeds around garden.
 - Plant resistant varieties such as 'Columbian', 'Rowpac', 'Roza', and 'Saladmaster', among others. Availability is limited.
 - Since leafhoppers avoid feeding on shaded plants, shading tomatoes (particularly when young) may help prevent infection.
 - Pull out and destroy infected plants.



Tomato

- **Problem: Verticillium Wilt**
- **Description:** Fungus infected plants wilt, are stunted, and have yellow leaves which tend to roll inward. Yellowing occurs first on the lower leaves. Leaves dry out, turn brown, and die. The vascular tissues are discolored.
- **Control:**
 - Clean up and destroy plant debris
 - Control weed hosts (including nightshades) in and around the garden
 - Crop rotation
 - Plant “V” resistant varieties



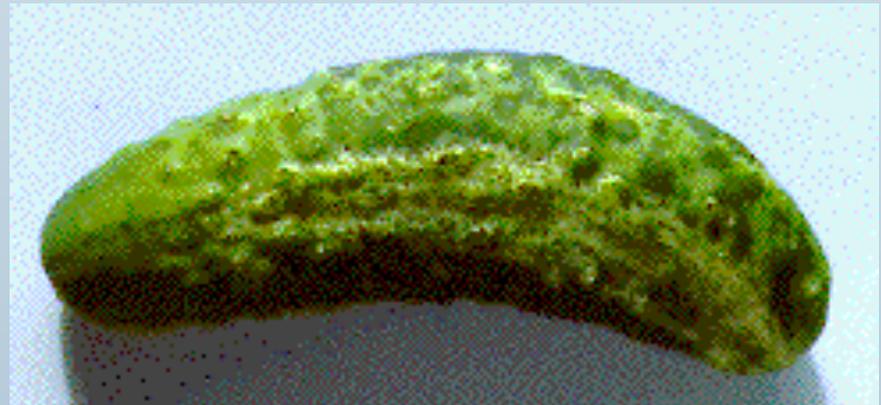
Cucurbits (Squash, cukes, melons)

- **Problem: Powdery Mildew**
- **Description:** Fungus disease that affects upper and lower leaves of cucurbits as well as fruit. Surfaces splotched with white powdery patches. Older, shaded, or undersides more severely affected. If severe leaves turn yellow and die.
- **Control:**
 - Clean up and destroy plant debris
 - Crop rotation
 - Plant resistant varieties
 - Don't crowd plants for good air circulation



Tomato

- **Problem: Cloudy Spot (Stink bug injury)**
- **Description:** Pale, yellow, or white spots on the fruit surface with shallow, white spongy areas in the flesh. Peeling fruit in the affected areas reveals hard white corky tissue. Caused by stink bug feeding.
- **Control:**
 - Keep garden and surrounding area clear of weeds all year. They overwinter in nearby weeds.





Cucumber mosaic virus (CMV) on squash leaves



Papaya ringspot virus (PRSV) on squash leaf and fruit



Watermelon mosaic virus (WMV) on a squash leaf



Zucchini yellow mosaic virus (CMV) on a squash leaf

Cucurbits

- **Problem: Mosaic Virus**
- **Description:** Typical symptoms include plant stunting, leaves that are yellow, mottled, and wrinkled, and deformed plant parts. Fruit produced by affected plants may have warty bumps, blotchy coloration, and bitter flavor.
- **Control**
 - Control aphids and weeds around garden
 - Remove infested plants
 - Plant resistant varieties



Tomato

- **Problem: Physiological Leaf Roll**
- **Description:** Upward cupping of the leaves, followed by an inward roll. Leaves become thickened and leathery. Typically first appears in lower leaves but may spread to the entire plant. It has little or no effect on plant growth or fruit production.
- **Cause:** Environmental stress, such as excess moisture, excess nitrogen, and transplant shock, improper cultural practices including severe pruning associated with staking or root damage from cultivation
- **Control:** Don't do that.