4-1-1974

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Anthracnose of Melons and Its Control

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Anthracnose of melons is a widespread and destructive disease of vine crops caused by the fungus Colletotrichum lagenarium. It is destructive to cantaloupe, cucumber, watermelon, most gourds, and many weeds in the cucurbit family. Pumpkin and squash are virtually immune.

How to Recognize Anthracnose

Anthracnose first appears as pale yellow, water-soaked spots on the older leaves near the crown. These spots soon enlarge and run together, turning tan to brown (most cucurbits) or black (watermelon). Affected areas may tear or drop out during strong winds and heavy rains, giving the leaves a tattered appearance. In dry weather, leaf infections spread slowly, but in rainy or damp weather they increase rapidly in size and number. Anthracnose spots may also appear on leaf petioles as elongated, sunken, dark-colored areas. In wet weather, leaf infections may cause serious loss of foliage and will serve as a source of inoculum for fruit infection later in the season. Defoliation and killing of infected vines are common.

Young fruits infected with anthracnose frequently turn black, fail to develop, shrivel and die. On older fruits, circular water-soaked lesions develop quite rapidly, particularly in periods of rainy or damp weather. Lesions become sunken and pink, but later turn dark green to black with flesh-colored, oozing centers. Anthracnose-infected melons and cucumbers are unattractive, bitter and unpalatable, usually decay rapidly, and are rejected at the market outlet.

The anthracnose fungus overwinters on crop refuse and may persist on infested seed or on weeds of the cucurbit family. It may survive in the soil for several years from where it can be spread from plant to plant by splashing rain and surface water. Most of the damage from anthracnose occurs late in the season when fruits are maturing.

How to Control Melon Anthracnose

There is no simple, one-shot method to prevent losses by anthracnose. Successful and economical prevention can be achieved only by the careful observance of the following suggestions:

1. Plant melons in well-drained soil free from surface run off water and rotate with crops other than cucurbits in a 3-year
or longer rotation.
2. When practical, grow anthracnose-tolerant varieties. Several varieties reported to be tolerant by seedsmen include:

   Watermelon: Allsweet, Charleston Grey, Crimson Sweet, Family Fun, Garrisonian, Petite Sweet, Royal Charleston.
   Cucumber: Cherokee 7, Gemini 7, Poinsett, Sweet Slice, Victory.

3. Purchase high quality seed from a reputable seed supplier. Chemicals registered for use as seed treatments for melons are unable -- in most cases -- to eradicate the anthracnose fungus from seed. Seed, however, should be treated with a fungicide such as captan (75% WP) or thiram (75% WP). Such treatment will protect the developing seedling from damping-off fungi.

4. Control all weeds within and near the melon planting especially balsamapple, wild cucumber, and other weeds of the cucurbit family.

5. Follow a regular spray or dust program. It is important that plants be coated with a fresh spray or dust deposit ahead of rains that spread disease-causing fungi and induce infection. Spray residues are more persistent if spray deposits are allowed to dry prior to rain. Dusts, however, by their nature, readily wash off plants subjected to rain and must, therefore, be replaced as soon as possible after a rain. Dusts must generally be applied more frequently than sprays for similar disease control. Several organic fungicides are available as wettable powders (WP) or flowable (F) formulations for preparation of sprays.

   These include maneb (80% WP) used at 2 pounds per acre, zineb (75% WP) at 2 pounds per acre, Bravo 6F at 1 1/2 to 2 pints per acre, Benlate (50% WP) at 1/4 to 1/2 pound per acre, Difolatan 4F at 4 pints per
acre, or Dyrene (50% WP) at 2 pounds per acre. For small garden plantings use maneb (80% WP) at 1 1/2 tablespoons per gallon, zineb (75% WP) at 1 1/2 tablespoons per gallon, Benlate (50% WP) at 1 to 2 teaspoons per gallon, or Bravo 6F at 1 1/2 tablespoons per gallon. If fixed copper fungicides are used, they should be alternated with one of the above fungicide treatments.

Begin spraying when plants are in the two leaf stage. Sprays should be applied at 7 to 10-day intervals. If rainy weather occurs, spray intervals should be shortened to 4 to 6 days. Do not apply maneb or zineb within 5 days prior to harvest. Follow manufacturers label directions for mixing and applying fungicidal sprays and dusts.

PLAY IT SAFE, READ THE LABEL, FOLLOW PRECAUTIONS. Destroy empty containers and keep all pesticides out of reach of children and domestic pets.

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