

PLANT DISEASE FACTS

By the Department of
PLANT PATHOLOGY & CROP PHYSIOLOGY



Leaf Pruning and Sanitation Practices to Manage Botrytis Gray Mold on Greenhouse Tomatoes

Greenhouse tomatoes are susceptible to many diseases and are overwhelmed by many abiotic problems associated with inadequate fertility and environmental controls. Botrytis grey mold, caused by the fungal pathogen *Botrytis cinerea*, is the most common disease associated with greenhouse tomatoes. Botrytis grey mold thrives under cool and wet conditions and attacks dying tissue (wounds) on the stem, leaf, petiole, peduncle and fruit (**Figure 1**). Sucker and leaf pruning is the primary cause of wounds. Good pruning practices that minimize the size of the stem scar can reduce Botrytis grey mold incidence significantly.

Pruning

Suckers (side shoots or lateral branches): Remove suckers to achieve a single leading stem and promote airflow (**Figure 2**). Prune suckers by pinching the base of the petiole with your thumb and index finger. Pinch and twist side ways to ensure a clean and flush break. Prune all suckers below the newest flower cluster. Remove suckers when they are very small (1-2 inches or 2.5-5 cm). Prune suckers 2 to 3 times per week.

Prune in the early afternoon when plants are dry and to allow enough time for the wounds to dry. If pruning shears or knives are used make sure they are sharp, clean and sanitized.

Leaves: Remove leaves that are yellowing and wilting near the bottom of the plant to encourage airflow and discourage *B. cinerea* infections. Prune leaves with sharp, clean and sanitized pruning shears or knives. Cut the petiole close to the stem so that no petiole stub remains. Do not remove leaves below the flower clusters or immature fruit clusters.

Flowers and fruits: Pinch off flowers and small immature fruit to obtain larger more uniform sized fruit. Remove abnormal or dead flowers and deformed fruit to reduce *B. cinerea* infections. Do not use pruning shears or knives.



Figure 1. Botrytis gray mold symptoms on greenhouse tomato leaves and stem.

Diseased plants: Remove diseased stem tissue by cutting on either side of the diseased area with sharp, clean and sanitized pruning shears or knives. Sanitize pruning shears or knives after each cut. Prior to pruning wrap the infected tissue with newspaper or paper towel soaked in a disinfecting agent (soap water or KleenGrow®) to prevent the spread of *B. cinerea* spores.

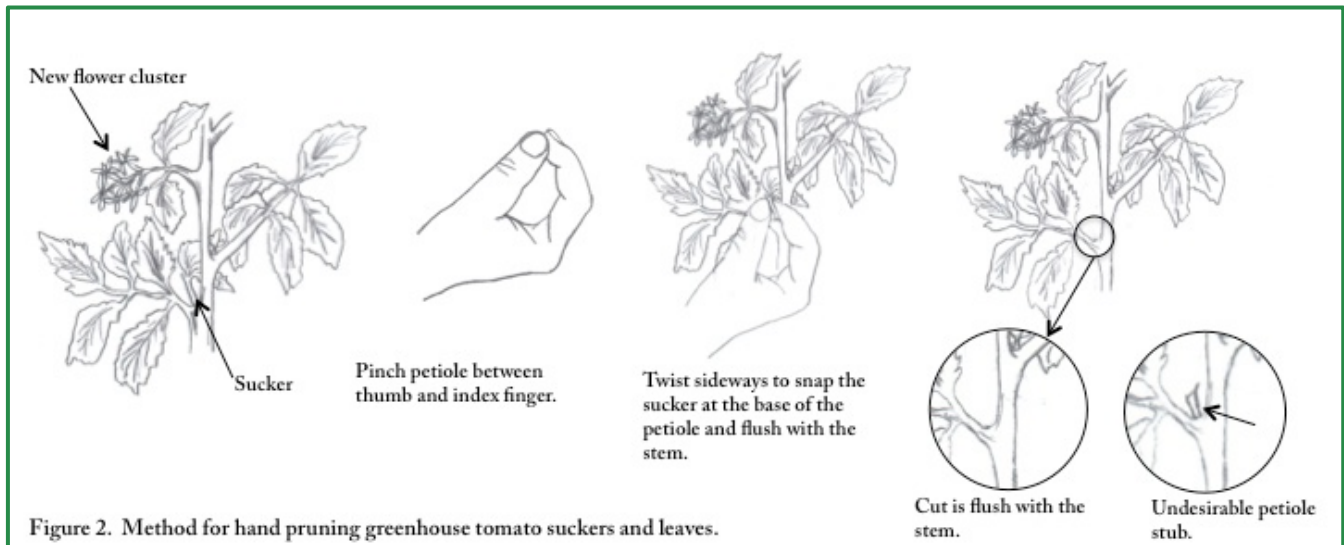


Figure 2. Method for hand pruning greenhouse tomato suckers and leaves.

Sanitation

Pruning debris: Place pruned plant material (debris) in a container and remove from the greenhouse. Do not leave pruning debris on the greenhouse floor for extended periods of time as *B. cinerea* can survive and reproduce on plant debris.

Equipment sanitation: Sanitize pruning shears or knives after each plant or row of plants with a disinfecting agent (**Box 1**). Use two pruning shears or knives alternatively; this will provide sufficient time to disinfect each pruning shear or knife. Wash pruning shears or knives at the end of each day with soap and hot water. Disinfect washed pruning shears or knives and dry completely.

Worker sanitation: Use hand sanitizer after pruning each row of plants or more frequently if plants are heavily infected with *B. cinerea*. If latex or nitrile gloves are worn, change gloves after each row of plants. Wear clean clothes daily.

Box 1 Disinfecting agents are substances used to prevent or destroy microorganisms on objects or surfaces.

- Disinfectants for pruning shears or knives:
 - Rubbing alcohol (70% ethanol or isopropanol)
 - KleenGrow®
 - GreenShield
 - StorOx
 - Lysol
- Disinfect for 1-2 minutes

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