TOMATO
Sanitation is critical for control of Bacterial Leaf Spot (BLS) of Tomato.
- BLS can move rapidly within the greenhouse so strict sanitation is critical to prevent spread within the greenhouse.
- Isolate production blocks to prevent mechanical spread by personnel or equipment.
- Thoroughly clean all equipment and production areas between production cycles.
- Always use seed tested for BLS to reduce, but not eliminate, the possibility of infection.
- Refer to ‘Sanitation for @Risk Crops’ for additional tips to make sure you have reduced the risk of spreading this disease within your production.
- Growers are responsible for managing the spread of BLS in their operations.

BACTERICIDES TO CONTROL BLS
- Copper based bactericides are the most effective chemicals to suppress the spread of BLS
- Copper is a protectant and is not curative once BLS infections begin. Apply copper bactericides every 5-7 days when disease pressure is low and every 3-5 days when disease is present
- Copper is easily washed off the foliage after irrigating. Trials have shown that >50% of the copper residue is gone after 2 days when overhead irrigation is used.
- Tank mix of copper compounds and Mancozeb were shown to be more effective than copper alone.

PLUG CULTURE
STAGE 1 - Time of radicle emergence (2-3 days)
- Soil temperature 70-72° F (21-22° C).
- Keep media evenly moist but not saturated.
- Cover the seed lightly with coarse vermiculite.
- Tomato is very sensitive to high salts, particularly high ammonium, during germination.

STAGE 2 - Stem and cotyledon emergence (7 days)
- Soil temperature 68-70° F (20-22° C).
- Reduce moisture levels once radicle emergence occurs! Allow the soil to dry out slightly before watering for best germination and rooting.
- Increase light levels to 1000-2500 foot-candles.
- Irrigate early in the day so foliage is dry by nightfall to prevent diseases.

STAGE 3 - Growth and development of true leaves (10-14 days)
- Soil temperature 60-65° F (15-18° C). Cooler temperatures will minimize stretching.
- Use DIF whenever possible, especially the first 2 hours after sunrise, to control plant height.
- Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- Sumagic (2.5-5 ppm) applied early in stage 3 will control hypocotyl stretch
STAGE 4 - Plants ready for transplanting or shipping (7 days)
♦ Soil temperature 60-62°F (16-17°C).
♦ Allow soil to dry thoroughly between irrigations.
♦ Maintain soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
♦ Fertilize with a balanced fertilizer at 50-75 ppm N as needed.

GROWING ON TO FINISH

Start with transplants produced under strict sanitation.

TEMPERATURE
♦ Night -- 55-65°F (13-18°C)
♦ Day -- 60-70°F (16-21°C)

LIGHT
♦ Maintain light levels around 4000-5000 foot-candles while maintaining moderate temperatures.

MEDIA
♦ Use a well-drained, disease-free soilless medium with a medium initial nutrient charge and a pH 5.5-6.3.

FERTILIZATION
♦ Fertilize every third irrigation with a balanced fertilizer at 50-75 ppm nitrogen.
♦ Low N or K coupled with high Ca and Mg are associated with increased BLS. Using high levels of dolomitic limestone and no fertilization strategies can increase BLS
♦ Maintain medium electrical conductivity around 1.0 mmhos/cm (using 1:2 extraction).

CONTROLLING HEIGHT
♦ Once plants are rooted to the sides of the containers allow plants to wilt prior to irrigation to provide some height control.
♦ Withholding fertilizer, especially phosphorous and ammonium-form nitrogen will reduce stretching.
♦ Tomato are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.
♦ Sumagic (1.25-5 ppm) must be applied after transplant and within 14 days after the 4 leaf has unfolded.

For more information on this disease and other tomato diseases:
http://vegetablemdonline.ppath.cornell.edu/factsheets/Tomato_List.htm

*Be sure to read and follow all pesticide label and instructions.