PEPPER
Sanitation is critical for control of Bacterial Leaf Spot (BLS) of Pepper.
- 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 (5-7 days)**
- Soil temperature 70-75°F (21-24°C).
- Keep media evenly moist but not saturated.
- Cover the seed lightly with coarse vermiculite.
- Pepper is very sensitive to high salts, particularly high ammonium, during germination.

**STAGE 2 - Stem and cotyledon emergence (7-10 days)**
- Soil temperature 70-75°F (21-24°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 65-70°F (18-21°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 (1.25-5 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)
- Peppers will be damaged by temperatures below 45°F (7°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 slightly wilt prior to irrigation to provide some height control.
- Withholding fertilizer, especially phosphorous and ammonium-form nitrogen will reduce stretching.
- Pepper 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: [http://vegetablemdonline.ppath.cornell.edu/factsheets/Pepper_List.htm](http://vegetablemdonline.ppath.cornell.edu/factsheets/Pepper_List.htm)

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